



Tennessee Department of Environment and Conservation
Division of Water Resources
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243

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Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

PURPOSE

The purpose of this Notice of Intent (NOI) is for a Tennessee city, county, utility district, university or military base to submit the information necessary to obtain coverage under an NPDES permit to discharge stormwater runoff from a Phase II municipal separate storm sewer system.

INSTRUCTIONS

You must provide the following information to the Division of Water Resources as application material. You may either submit a hard copy of the signed NOI as described in sub-part 2.2.1 of the MS4 Permit, signed in accordance with the signatory requirements of sub-part 6.7 of the permit, and a copy of the NOI, to the address shown in sub-part 1.2 of the permit for the EFO responsible for the county where the facility is located; or you may submit by e-mail, the completed NOI and attachments (such as map and city ordinances) to water.permits@tn.gov.

After completing the questions in each section, list the Best Management Practices (BMPs) that you will implement in each program. Attached at the end of this NOI is an addendum to list BMP Measurable Goals and Implementation Milestones. You must complete the addendum, providing more details on the goals and milestones for each BMP outlined in this NOI.

After completing the BMP's in each section provide the administrative information to complete those BMP's as explained here:

Primary Contact and Position/Title	The person in your organization serving as the primary contact.
Other Department and Roles	Other departments within your organization involved in the project and how their role is identified.
Other Government Entity and Roles	Identification of other government entities responsible for implementing one or more of the BMP's. Include a copy of the contract or proposed agreement with execution schedule.
Other Institutions and Roles	Identification of partnerships with another MS4 operator or institution (e.g., Chamber of Commerce, environmental interest organizations, civic groups) to achieve the BMP's.
Target Groups (if applicable)	Specific kinds of groups that will be targeted, such as service industries (i.e., carpet cleaning), civic groups, schools, and church groups, etc.

PART I - ADMINISTRATIVE INFORMATION

Name of Phase II MS4 city, county, stormwater utility district or public institution: City of Greenbrier, TN

Include a latitude and longitude of a representative location within your boundaries for mapping purposes.

Latitude (dd.dddd): N26.4264 Longitude (dd.dddd): W86.8064

<u>Bonnette Dawson</u>	<u>Mayor</u>		
Responsible Elected Official or Officer	Title		
<u>202 W. College St.</u>	<u>Greenbrier</u>	<u>TN</u>	<u>37073</u>
Street Address	City	State	Zip Code

Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

PROGRAM CONTACT

Alex West

Name
awest@greenbriertn.org

Email Address
(615) 643-4531

Phone Number

TECHNICAL CONTACT

Philip J. Klover, P.E.

Name
pklover@klovereng.com

Email Address
(615) 382-2000

Phone Number

☒ Attach an organizational chart that shows the different departments involved in stormwater management.

PART II - DESCRIPTION OF STORM SEWER SYSTEM

ITEM A - AREA SERVED (IN SQUARE MILES)

For a city, town, university, or utility district university or military base:

Provide jurisdiction area within current boundaries

6.95

Provide additional area of urban growth boundary

n/a

For a county:

Provide total area:

Provide area that is unincorporated

Provide unincorporated, urbanized area (UA)

Indicate by checking the appropriate box if the permit will be used to regulate non-UA portions of the county:

☐

No

☐

Yes, the entire county (unincorporated)

☐

Yes, the non-UA portions, as follows: _____

ITEM B - STORM DRAINAGE INFRASTRUCTURE

Give figures for the following features of stormwater drainage infrastructure owned or operated by the local government. For a county government, indicate whether the figures represent the entire county or only the urbanized area. Figures for length and number of culverts and catch basins may be rough estimates.

For counties: Entire county

☐

Urbanized area only

☐

City Limits Only

Storm Sewers n/a (miles or feet)

Culverts 98

Water Quality Treatment Ponds

0

Open Ditches

Catch Basins

Est. 75 miles (miles or feet)

Est 55

ITEM C - MAPS

Include a map or maps depicting the following information. A single map may be submitted, as long as the information is legible. If you are not able to provide all the information mark the applicable check box and attach an explanation as to why the information has not been submitted:

- | | | | |
|--|-------------------------------------|--|-------------------------------------|
| Zoned areas for commercial or industrial activity | <input checked="" type="checkbox"/> | State vocational, technical, college or universities | <input type="checkbox"/> |
| Actual areas of commercial or industrial activity | <input type="checkbox"/> | Federal vocational, technical, college or universities | <input type="checkbox"/> |
| Other municipally owned/operated industrial activities | <input type="checkbox"/> | City Roads | <input checked="" type="checkbox"/> |
| Municipal or County Wastewater Treatment Plants | <input checked="" type="checkbox"/> | County Roads | <input type="checkbox"/> |
| Vehicle Fleet Maintenance Centers | <input checked="" type="checkbox"/> | Streams | <input checked="" type="checkbox"/> |
| Power Plants | <input type="checkbox"/> | Topography or Drainage Patterns | <input checked="" type="checkbox"/> |
| Airports | <input type="checkbox"/> | Landfills | <input type="checkbox"/> |
| Military Installations | <input type="checkbox"/> | | |

ITEM D - IDENTIFYING STREAMS WITH UNAVAILABLE PARAMETERS or EXCEPTIONAL TENNESSEE WATERS

Using the GIS mapping tool (<http://www.tn.gov/environment/article/wr-water-resources-data-viewer>) along with the most current 303(d) list (<http://www.tn.gov/environment/article/wr-wq-water-quality-reports-publications>) published on the division's web site, determine whether stormwater from any part of the MS4 discharges into streams with unavailable parameters (previously referred to as impaired streams) for nutrients, pathogens, siltation, or other parameters related to stormwater runoff from urbanized areas or to streams designated as Exceptional Tennessee Waters and list below. For any waterbody with unavailable parameters or Exceptional Tennessee Waters, indicate the waterbody ID#, name of the waterbody and nature of pollution (cause) or Exceptional status.

[illegible]

If you have additional streams to list, include in a separate attachment.

Phase II Municipal Separate Storm Sewer Systems (MS4)

ITEM E - STATE OR EPA ISSUED TDMLs

Identify established and approved TMDLs with waste load allocations for MS4 discharges in your jurisdiction and check the appropriate box. A list of EPA-Approved TMDLs as well as EPA-Established TMDLs for Tennessee waters can be found on the division's web site: <http://www.tn.gov/environment/article/wr-ws-tennessees-total-maximum-daily-load-tmdl-program>.

Yes ☐ No ☐ If yes, list the waterbody ID#, name of unavailable waterbody and parameter(s) of concern:

[illegible]

If you have additional streams to list, include in a separate attachment.

PART III
EXISTING LEGAL AUTHORITY TO CONTROL STORMWATER DISCHARGES TO MS4

You must review existing adopted and signed ordinances or regulations that are associated with stormwater discharges to your MS4. Attach a copy of ordinances and/or policies that give your MS4 the authority to control stormwater discharges into the MS4 storm sewer system. Ordinances and/or policies that deal with stormwater issues might be found, for example, in conjunction with litter control, prohibition of dumping, clean up of spills, grading/building permits, sewer connection ordinances, erosion prevention and sediment control practices, subdivision regulations or other land use/development ordinances.

Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

PART IV - SIGNATURE OF RESPONSIBLE CORPORATE OFFICER

This Notice of Intent (NOI) must be signed as follows: For a municipality, state, federal, other public agency, and/or co-permittees by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes one of the following:

- I. The chief executive officer of the agency.
- II. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury."

Bonnette A. Dawson
Signature

Mayor - City of Greenbrier
Title/Municipality

June 23, 2017
Date

Signature

Title/Municipality

Date

Signature

Title/Municipality

Date

Signature

Title/Municipality

Date

Signature

Title/Municipality

Date

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Title/Municipality

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Signature

Title/Municipality

Date

Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

PART V - YOUR PROPOSED STORMWATER QUALITY MANAGEMENT PROGRAM

This NOI requires you to provide a brief description of your current and proposed activities as well as your BMPs for a stormwater management program. The following sections correspond to the six minimum control measures for a Phase II stormwater management program. If another MS4 will be responsible for implementing any or all portions of any or all following six minimum measures, then attach either the interlocutory agreement or the proposed agreement and schedule for adoption. You must still complete this NOI by answering the relevant questions for the six following measures.

For purposes of this NOI, the Public Education and Outreach and Public Participation and Involvement minimum measures have been combined.

SECTION 1 - PUBLIC EDUCATION AND OUTREACH AND PUBLIC INVOLVEMENT/PARTICIPATION

A. Current Activities:

The following is a set of questions on your current Public Education and Outreach and Public Involvement/Participation. These questions are intended to highlight minimum program requirements under the MS4 permit. Each question with a "No" answer must be addressed with a solution in the MS4's proposed program.

1. Does the municipality currently distribute educational materials on the topics of stormwater quality, instream water quality, pollution impacts, pollution prevention, etc.? If yes, briefly describe the materials, including media used (e.g., written brochures, public service announcements, etc.); the topic(s) covered, intended target audience(s), and the distribution method: _____. See Attached Addendum

Yes ☒ No ☐

2. Does the municipality currently conduct or participate in public outreach activities focusing on the topics of stormwater quality, stream water quality, pollution impacts, pollution prevention, etc.? If yes, briefly describe the outreach activities, topic(s) covered, intended target audience(s), and the frequency of activities: _____.

Yes ☒ No ☐ See Attached Addendum

3. Does the current municipal stormwater management program comply with Local, State and Federal public notice requirements? If yes, describe how the public is notified: _____.

Yes ☒ No ☐ See Attached Addendum

B. Proposed Activities:

1. List the BMPs that you will implement in the areas of Public Education and Outreach and Public Participation and Involvement. These should be based on a set of priorities that you have identified in the areas of Public Education and Outreach and Public Participation and Involvement. Provide a short descriptive name to the BMP in the left column. In the right column, more fully describe the BMP.

For Public Participation and Involvement BMPs, you may not desire to dictate the ways in which the public participates or is involved in the stormwater quality management program; in this case, your proposed program should provide a forum and/or a structure which guides and encourages the public in participation. On the other hand, there may be specific ways you do want the public to be involved, based on your program needs. For instance, you may want stream watch groups to be organized. In both cases, your proposed program should describe how you will accomplish this, along with a time schedule.

PROPOSED BEST MANAGEMENT PRACTICES FOR PUBLIC EDUCATION AND PUBLIC PARTICIPATION		
BMP	Name	DESCRIPTION
1A.	Teach the Teacher	Provide material to public school teachers to educate students on stormwater runoff and
1B.		pollution prevention issues.
1C.	Inform the Farmer	Mail letters to owners of agriculture zoned properties making them aware of stormwater
1D.		ordinance and city requirements.

Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

If you have additional BMPs to list, include in a separate attachment.

2. What specific groups will be targeted (e.g., service industries such as carpet cleaning, lawn care, civic groups, schools, church groups) if applicable: _____

C. Measurable Goals and Implementation Milestones:

Attached at the end of this NOI is an addendum to list BMP Measurable Goals and Implementation Milestones. You must complete the addendum, providing more details on the goals and milestones for each BMP outlined in this NOI.

D. Administrative Information:

ADMINISTRATIVE INFORMATION FOR PUBLIC EDUCATION AND PUBLIC PARTICIPATION	
PRIMARY CONTACT	POSITION OR TITLE
Alex West	City Building & Codes Official

Identify other Department(s) that will be involved and their role.

OTHER DEPARTMENT(S)	ROLE
All Department Heads	Involve all departments in public education and outreach.

Identify if you will partner with another MS4 Operator, or with another institution (e.g. Chamber of Commerce, Environmental interest organizations, civic groups) in order to carry out the chosen BMPs.

ENTITY	BMP

Will another governmental entity be responsible for implementing one or more chosen BMPs? If so, identify the entity and which BMP(s) it will implement. Include a copy of the interlocutory agreement, or contract, or proposed agreement with execution schedule.

ENTITY	BMP

SECTION 2 - ILLICIT DISCHARGE DETECTION AND ELIMINATION

A. Current Activities

The following is a set of questions on your current Illicit Discharge Detection and Elimination Program. These questions are intended to highlight minimum program requirements under the MS4 permit. For MS4s who have not been previously covered under an MS4 permit, each element not currently performed must be implemented by the dates identified in Sub-part 4.1.1 of the permit. Thus, each question with a "No" answer must be addressed with a solution in the MS4's proposed program.

1. Does the municipality currently have a storm sewer system map that shows the location of system outfalls where the municipal storm sewer system discharges into receiving waters or conveyances owned or operated by another MS4? The map must also show: the names and location of waters that receive discharges from those outfalls; inputs into the storm sewer collection system, such as the inlets, catch basins, drop structures or other defined contributing points to the sewershed of that outfall; and general direction of stormwater flow.

Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

Yes ☒ No ☐

2. Does the municipality currently have an ordinance or regulatory mechanism that prohibits unauthorized non-stormwater discharges into the storm sewer system? If yes, attach a copy and give page and section number(s). If No, proceed to the next section (inspections and enforcement). Ordinance is attached.

Yes ☒ No ☐ Page Number 29 Paragraph Number Section 8, Para 2

3. Does the ordinance or regulatory mechanism clearly define non-stormwater discharges, either through a written description of a non-stormwater discharge or through a listing of authorized or unauthorized non-stormwater discharges?

Yes ☒ No ☐

4. Does the ordinance or regulatory mechanism allow right-of-entry on private property for inspection of suspected discharges?

Yes ☒ No ☐

5. Does the ordinance or regulatory mechanism prohibit dumping?

Yes ☒ No ☐

6. Does the ordinance or regulatory mechanism give the MS4 owner/operator the authority to eliminate unauthorized non-stormwater discharges in the event of violations? If yes, note page number and paragraph number.

Yes ☒ No ☐ Page Number 31 Paragraph Number 1

7. Does the ordinance or regulatory mechanism define penalties for violations? If yes, note maximum penalty, page number and paragraph number.

Yes ☒ No ☐ Maximum Penalty \$5,000/day Page Number 34 Paragraph Number 2

8. Does the municipality presently have personnel and procedures in place to detect, identify and eliminate non-stormwater discharges? If yes, describe and indicate percentage of system inspected: _____

The Building & Codes Official monitors discharges throughout the city on a daily basis.
Yes ☒ No ☐ The percentage has not been identified.

9. Does the municipality presently have procedures and personnel in place for enforcement of violations of the illicit discharge ordinance? If yes, describe: _____

The Building & Codes Official along with the City Superintendent have authority to report and
Yes ☒ No ☐ enforce the illicit discharge ordinance.

10. Describe how enforcement actions are documented: Enforcement action is documented by warning letters and notice of violations.

11. Has the municipality defined "hot spots" for non-stormwater discharge screening and inspection purposes? If yes, describe and provide a map of illicit discharge screening hot spots: Screenings and inspections are currently focused on the city sewage treatment plant and industrial activities that could discharge into the headwaters of Greenbrier Lake.

Yes ☒ No ☐

12. Does the municipality presently have procedures in place to receive and consider information and complaints about non-stormwater discharges that are submitted by the public? If yes, provide brief description: responsible departments, personnel, steps followed: All issues are received and handled by the Building & Codes Official and the City Superintendent.

Yes ☒ No ☐

B. Proposed Activities:

Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

1. List the BMPs that you will implement in the area of Illicit Discharge Detection and Elimination. These should be based on a set of priorities that you have identified in the area of Illicit Discharge Detection and Elimination. Provide a short descriptive name to the BMP in the left column and more description in the right column.

PROPOSED BEST MANAGEMENT PRACTICES FOR ILLICIT DISCHARGE DETECTION AND ELIMINATION		
BMP	Name	DESCRIPTION
2A.	Increase Inspections	Perform daily stormwater compliance inspections and document finding on inspection form.
2B.		
2C.		
2D.		

If you have additional BMPs to list, include in a separate attachment.

2. What specific groups will be targeted, if applicable?

C. Measurable Goals and Implementation Milestones

Attached at the end of this NOI is an addendum to list BMP Measurable Goals and Implementation Milestones. You must complete the addendum, providing more details on the goals and milestones for each BMP outlined in this NOI.

D. Administrative Information

ADMINISTRATIVE INFORMATION FOR ILLICIT DISCHARGE DETECTION AND ELIMINATION	
PRIMARY CONTACT	POSITION OR TITLE
Alex West	Building & Codes Official

Identify other Department(s) that will be involved and their role.

OTHER DEPARTMENT(S)	ROLE
All Department Heads	Each department is responsible to report illicit discharges observed during the course of daily activities.

Identify if you will partner with another MS4 Operator, or with another institution (e.g. Chamber of Commerce, Environmental interest organizations, civic groups) in order to carry out the chosen BMPs.

ENTITY	BMP

Will another governmental entity be responsible for implementing one or more chosen BMPs? If so, identify the entity and which BMP(s) it will implement. Include a copy of the interlocutory agreement, or contract, or proposed agreement with execution schedule.

ENTITY	BMP

SECTION 3 - CONSTRUCTION SITE STORMWATER RUNOFF PROGRAM

A. Current Activities

The following is a set of questions on your current Construction Site Stormwater Runoff Program. These questions are intended to highlight minimum program requirements under the MS4 permit. For MS4s who have not been previously covered under an MS4 permit, each element not currently performed must be implemented by the dates identified in Sub-part 4.1.1 of the permit. Thus, each question with a "No" answer must be addressed with a solution in the MS4's proposed program.

Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

1. Do the current ordinances/regulations for the municipal stormwater management program comply with Local, State and Federal public notice requirements? If yes, describe how the public is notified: Information is available at City Hall, on the city website and on water bills.

Yes ☒ No ☐

2. Do you currently have an erosion prevention and sediment control - or similar - ordinance or regulatory mechanism? If yes, include a copy and reference the paragraph number(s). If No, proceed to the next set of questions below about construction site plans review.

Yes ☒ No ☐ Page Number 20 Paragraph Number 5

3. Does the ordinance or regulatory mechanism require that site operators implement erosion prevention, sediment control, and other construction waste controls for land disturbance activities?

Yes ☒ No ☐

4. Does the ordinance/regulatory mechanism require that controls be implemented for any land disturbances greater than or equal to one acre, or less than one acre if part of a large common plan of development or sale that would disturb one acre or more? If yes, note the page number and paragraph number where this is defined.

Yes ☒ No ☐ Page Number 8 Paragraph Number 1

5. Does the ordinance or regulatory mechanism contain or reference technical standards for erosion and sediment control? If yes, note the page number and paragraph number where this is defined.

Yes ☒ No ☐ The ordinance references state and federal standards on multiple pages.

6. Do those technical standards meet or exceed the current effective Tennessee Construction General Permit (TNR100000) requirements for design storm and special conditions for waterbodies with unavailable parameters or exceptional Tennessee waters?

Yes ☒ No ☐ The technical standards of the state permit are referenced.

7. Do those technical standards require that construction activities maintain temporary water quality riparian buffers during construction?

Yes ☒ No ☐

8. Does the municipality presently have in place a technical review process (i.e. engineering department, planning department, zoning board) that evaluates new development and redevelopment construction for construction site runoff?

Yes ☒ No ☐

9. Does the technical review process require an erosion prevention and sediment control plan with appropriate BMPs?

Yes ☒ No ☐

10. Does the review process include a requirement for pre-construction meeting between the municipality and site developer, for priority construction sites?

Yes ☒ No ☐

11. If there is a review process, provide a brief narrative or a flow chart of the process, describing the process steps, responsible personnel, and criteria used for evaluation of information or plans that are submitted: See Attached Addendum

12. Does the municipality presently have procedures in place for receipt and consideration of information and complaints submitted by the public? If yes, provide a brief narrative of the receipt process and procedures, describing process steps, responsible departments, personnel (by title). See Attached Addendum

Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

Yes ☒ No ☐

13. Does the municipality presently have personnel and procedures in place for construction site runoff inspection?

Yes ☒ No ☐

14. Does the program provide for pre-construction meeting and monthly inspection of priority construction activities?

Yes ☒ No ☐

15. Does the municipality presently have procedures and personnel in place for enforcement to the maximum extend for violations of construction site requirements?

Yes ☒ No ☐

16. Does the municipality use a Stop Work or similar order to enforce compliance with construction site policies and requirements?

Yes ☒ No ☐

17. How are enforcement actions documented? Notice of violation and stormwater compliance inspection reports.

18. Have MS4 inspectors who conduct inspections of construction sites received certification under the Tennessee Fundamentals of Erosion Prevention and Sediment Control, Level 1, and construction site plan reviewers a certificate of completion from the Tennessee Erosion Prevention and Sediment Control Design Course, Level 2?

Yes ☒ No ☐

B. Proposed Activities:

1. List the BMPs that you will implement in the area of Construction Site Runoff Program. These should be based on a set of priorities that you have identified in the area of Construction Site Runoff Program. Provide a short descriptive name to the BMP in the left column and more description in the right column.

PROPOSED BEST MANAGEMENT PRACTICES FOR CONSTRUCTION SITE RUNOFF PROGRAM		
BMP	Name	DESCRIPTION
3A.	Jobsite Inspection	Preconstruction meetings and will be held for larger projects and daily construction
3B.		stormwater control inspection will be performed on all projects.
3C.		
3D.		

If you have additional BMPs to list, include in a separate attachment.

2. Describe specific groups that will be targeted, if applicable: Construction sites

C. Measurable Goals and Implementation Milestones

Attached at the end of this NOI is an addendum to list BMP Measurable Goals and Implementation Milestones. You must complete the addendum, providing more details on the goals and milestones for each BMP outlined in this NOI.

D. Administrative Information

ADMINISTRATIVE INFORMATION FOR CONSTRUCTION SITE RUNOFF PROGRAM	
PRIMARY CONTACT	POSITION OR TITLE
Alex West	Building & Codes Official

Identify other Department(s) that will be involved and their role.

OTHER DEPARTMENT(S)	ROLE
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Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

Identify if you will partner with another MS4 Operator, or with another institution (e.g. Chamber of Commerce, Environmental interest organizations, civic groups) in order to carry out the chosen BMPs.

ENTITY	BMP

Will another governmental entity be responsible for implementing one or more chosen BMPs? If so, identify the entity and which BMP(s) it will implement. Include a copy of the interlocutory agreement, or contract, or proposed agreement with execution schedule.

ENTITY	BMP

SECTION 4 - PERMANENT STORMWATER MANAGEMENT AT NEW DEVELOPMENT AND REDEVELOPMENT

A. Current Activities:

The following is a set of questions on your current Permanent Stormwater Management in New Development and Redevelopment Program. These questions are intended to highlight minimum program requirements under the MS4 permit. For MS4s who have not been previously covered under an MS4 permit, each element not currently performed must be implemented by the dates identified in Sub-part 4.1.1 of the permit. Thus, each question with a "No" answer must be addressed with a solution in the MS4's proposed program.

1. Does the municipality currently have in place mechanisms or strategies to address permanent stormwater runoff management from new development or redevelopment projects that result in land disturbance of one acre or more? For example, land use planning requirements, zoning directives, site-based pollutant removal controls; stormwater detention or storage; practices that infiltrate stormwater; vegetative practices.

Yes ☒ No ☐

If yes, provide a brief narrative of - and/or references to - the structural and non-structural strategies, describing strategies implemented, Best Management Practices allowed, technical guidance, responsible departments, and personnel (by title): See Attached Addendum

2. Do you currently have an ordinance or regulatory mechanism that addresses permanent stormwater runoff management from new development and redevelopment projects? If yes, reference the page number and paragraph number. If no, proceed to the next section on permanent stormwater management plans review.

Yes ☒ No ☐ Page Number 13-18 Paragraph Number

3. Does the ordinance or regulatory mechanism require controls to treat pollutants in stormwater runoff? If yes, note page number and paragraph number.

Yes ☒ No ☐ Page Number 13-18 Paragraph Number

4. Does the ordinance or regulatory mechanism require (explicitly or implicitly) that controls be implemented for any new development or redevelopment projects greater than or equal to one acre, including projects less than one acre that are part of a large common plan of development or sale, that discharge into your small MS4? If yes, note page number and paragraph number.

Yes ☒ No ☐ Page Number 8 Paragraph Number 1

Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

5. Does the ordinance or regulatory mechanism contain or reference technical standards for water quality controls? If yes, note page number and paragraph number.

Yes ☒ No ☐ Page Number 13 Paragraph Number 1

6. Does the ordinance or regulatory mechanism clearly define the criteria for submittal -who must submit - of permanent stormwater management design information or plans? If yes, note page number and paragraph number.

Yes ☒ No ☐ Page Number 9 Paragraph Number 4

7. Does the ordinance or regulatory mechanism require approval prior to construction of permanent stormwater management controls? If yes, note page number and paragraph number.

Yes ☒ No ☐ Page Number 10 Paragraph Number 5

8. Does the ordinance or regulatory mechanism require re-submittal of permanent stormwater management design information or plans if site plans change after the initial design has been approved? If yes, note page number and paragraph number.

Yes ☒ No ☐ Page Number 10 Paragraph Number 5

9. Does the ordinance or regulatory mechanism give the MS4 owner/operator the authority to penalize the owner of permanent stormwater management controls for violations? If yes, note page number and paragraph number.

Yes ☒ No ☐ Page Number 2 Paragraph Number

10. Does the ordinance or regulatory mechanism require that permanent stormwater management controls have adequate and long-term operation and maintenance? If yes, note page number and paragraph number. If no, describe how the MS4 owner/operator maintains permanent stormwater management controls:

Yes ☒ No ☐ Page Number 18 Paragraph Number

11. Does the ordinance or regulatory mechanism require establishment and maintenance of water quality riparian buffers in areas of new development and redevelopment?

Yes ☒ No ☐

12. Does the municipality presently have in place a technical review process (i.e. engineering department, planning department, zoning board) that evaluates new development and redevelopment with regard to the impact that permanent stormwater runoff will have on receiving streams?

Yes ☒ No ☐ All plans are reviewed by the City Reviewing Engineer and the Building & Codes Official. Approval is made by the Planning Commission.

If Yes, provide a brief narrative or a flow chart of the review process, describing the process steps, responsible personnel (by department, title and contact person), and criteria used for evaluation of information or plans that are submitted:

B. Proposed Activities:

List the BMPs that you will implement in the area of the Permanent Stormwater Management Plans Review. These should be based on a set of priorities that you have identified in the area of the Permanent Stormwater Management Plans Review. Provide a short descriptive name to the BMP in the left column and more description in the right column.

PROPOSED BEST MANAGEMENT PRACTICES FOR PERMANENT STORMWATER PLANS REVIEW		
BMP	Name	DESCRIPTION
4A.	Plans Review	Formally adopt the Tennessee Permanent Stormwater Management and Design Guidance
4B.		Manual. The state has already been informed of its acceptance.
4C.		
4D.		

Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

If you have additional BMPs to list, include in a separate attachment.

Describe the specific groups that will be targeted, if applicable? _____

C. Measurable Goals and Implementation Milestones:

Attached at the end of this NOI is an addendum to list BMP Measurable Goals and Implementation Milestones. You must complete the addendum, providing more details on the goals and milestones for each BMP outlined in this NOI.

D. Administrative Information:

ADMINISTRATIVE INFORMATION FOR PERMANENT STORMWATER MANAGEMENT PLANS REVIEW	
PRIMARY CONTACT	POSITION OR TITLE
Alex West	Building & Codes Official

Identify other Department(s) that will be involved and their role.

OTHER DEPARTMENT(S)	ROLE

Identify if you will partner with another MS4 Operator, or with another institution (e.g. Chamber of Commerce, Environmental interest organizations, civic groups) in order to carry out the chosen BMPs.

ENTITY	BMP

Will another governmental entity be responsible for implementing one or more chosen BMPs? If so, identify the entity and which BMP(s) it will implement. Include a copy of the interlocutory agreement, or contract, or proposed agreement with execution schedule.

ENTITY	BMP

SECTION 5 - POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

A. Current Activities:

The following is a set of questions on your current Pollution Prevention/Good Housekeeping for Municipal Operations Program. These questions are intended to highlight minimum program requirements under the MS4 permit. Each question with a "No" answer must be addressed with a solution in the MS4's proposed program.

1. Does the municipality's current Pollution Prevention/Good Housekeeping program provide annual training for employees responsible for municipal operations at facilities within the jurisdiction of the permittee that handle, generate and/or store materials which constitute a potential pollutant of concern for MS4s? Examples of these materials may include, but are not limited to, lubricants, fuels, sand, gravel, soil, salt, pesticide, fertilizer, garbage, trash, clippings, vehicles, equipment, and other wastes.

Yes ☒ No ☐

2. Are training activities documented? If yes, describe training and method of record-keeping: _____

Yes ☒ No ☐ Annual training is conducted and documented.

Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

3. Has the MS4 owner/operator obtained a Tennessee Multi-Sector General Permit or a no-exposure certification for all qualifying municipal industrial activities? If yes, give permit numbers or attach copies of the No-Exposure Certification form.

Yes ☐ No ☒ Permit Number(s) _____

4. List municipal operations or facilities that have a potential for contaminating stormwater runoff such as the following: streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations, snow disposal areas operated by the MS4, and waste disposal, storage, and transfer stations. If there is more than one facility for a given type of operation; give the number of such facilities. Indicate if an operation and maintenance plan, which includes maintenance activities, schedules and the proper disposal of waste from related structural and non-structural stormwater controls, has been implemented for each facility or operation.

FACILITY OR TYPE OF OPERATION	NUMBER OF FACILITIES	OPERATION AND MAINTENANCE PLAN IMPLEMENTED?
City Vehicle Fleet Maintenance Center	1	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
		Yes <input type="checkbox"/> No <input type="checkbox"/>
		Yes <input type="checkbox"/> No <input type="checkbox"/>
		Yes <input type="checkbox"/> No <input type="checkbox"/>
		Yes <input type="checkbox"/> No <input type="checkbox"/>
		Yes <input type="checkbox"/> No <input type="checkbox"/>
		Yes <input type="checkbox"/> No <input type="checkbox"/>
		Yes <input type="checkbox"/> No <input type="checkbox"/>
		Yes <input type="checkbox"/> No <input type="checkbox"/>
		Yes <input type="checkbox"/> No <input type="checkbox"/>
		Yes <input type="checkbox"/> No <input type="checkbox"/>
		Yes <input type="checkbox"/> No <input type="checkbox"/>
		Yes <input type="checkbox"/> No <input type="checkbox"/>
		Yes <input type="checkbox"/> No <input type="checkbox"/>
		Yes <input type="checkbox"/> No <input type="checkbox"/>

B. Proposed Activities:

List the BMPs that you will implement in the area of the Pollution Prevention and Good Housekeeping Program. These should be based on a set of priorities that you have identified in the area of the Pollution Prevention and Good Housekeeping Program. Provide a short descriptive name to the BMP in the left column and more description in the right column.

In addition to considering industrial-type operations, you must also consider municipal infrastructure, and related maintenance activities, maintenance schedules and long-term inspection procedures for structural controls and the proper disposal of waste from storm sewers/catch basins.

PROPOSED BEST MANAGEMENT PRACTICES FOR POLLUTION PREVENTION AND HOUSEKEEPING		
BMP	Name	DESCRIPTION
5A.	Waste	Establish strict procedure for waste disposal in maintenance areas
5B.	Management	
5C.		
5D.		

If you have additional BMPs to list, include in a separate attachment.

Provide specific groups that will be targeted, if applicable: _____

C. Measurable Goals and Implementation Milestones:

Attached at the end of this NOI is an addendum to list BMP Measurable Goals and Implementation Milestones. You must complete the addendum, providing more details on the goals and milestones for each BMP outlined in this NOI.

Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

D. Administrative Information:

ADMINISTRATIVE INFORMATION FOR POLLUTION PREVENTION AND HOUSEKEEPING	
PRIMARY CONTACT	POSITION OR TITLE
Maintenance Manager	

Identify other Department(s) that will be involved and their role.

OTHER DEPARTMENT(S)	ROLE

Identify if you will partner with another MS4 Operator, or with another institution (e.g. Chamber of Commerce, Environmental interest organizations, civic groups) in order to carry out the chosen BMPs.

ENTITY	BMP

Will another governmental entity be responsible for implementing one or more chosen BMPs? If so, identify the entity and which BMP(s) it will implement. Include a copy of the interlocutory agreement, or contract, or proposed agreement with execution schedule.

ENTITY	BMP

Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

ADDENDUM TO SMALL MS4 NPDES PERMIT NOI - BMPs MEASURABLE GOALS AND MILESTONES

The purpose of this addendum is to record the measurable goals for each BMP, and the dates (month and year) by which interim actions are to be accomplished. Space is given for four BMPs for each of the six minimum measures. If necessary, attach additional BMP MEASURABLE GOALS AND MILESTONES as a separate attachment.

Measurable goals are BMP design objectives, or goals that will quantify the progress of implementing the actions or performance of a BMP. They are ways to measure activities or effects of a BMP. For each of the six minimum measures and for each BMP, define the measurable goal you will use to monitor effectiveness of this BMP. The BMPs you list here should match exactly those given in Part V., 1-5 of this NOI. For purposes of this NOI, the Public Education and Outreach and Public Involvement/Participation minimum measures have been combined.

For each BMP, establish milestones for implementation. These tables are set up for once/year milestones. You may change the milestone dates to time frames less than one year.

BEST MANAGEMENT PRACTICES FOR PUBLIC EDUCATION AND PUBLIC PARTICIPATION	
BMP 1A	MEASURABLE GOALS AND MILESTONES
Goal(s)	Teach the Teacher
Milestone Year 1	Assist teachers in ongoing pollution prevention education programs
Milestone Year 2	
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	
BMP 1B	MEASURABLE GOALS AND MILESTONES
Goal(s)	Inform the Farmer
Milestone Year 1	Additional mailings and personal contact with owners of agricultural property.
Milestone Year 2	
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	

BMP 1C	MEASURABLE GOALS AND MILESTONES
Goal(s)	
Milestone Year 1	
Milestone Year 2	
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	

BMP 1D	MEASURABLE GOALS AND MILESTONES
Goal(s)	
Milestone Year 1	
Milestone Year 2	
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	

BEST MANAGEMENT PRACTICES FOR ILLICIT DISCHARGE DETECTION AND ELIMINATION	
BMP 2A	MEASURABLE GOALS AND MILESTONES
Goal(s)	Increased observation of illicit discharges.
Milestone Year 1	Require each department to be responsible to report illicit discharges observed during the
Milestone Year 2	course of daily activities.
Milestone Year 3	
Milestone Year 4	

Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

Milestone Year 5	
BMP 2B	MEASURABLE GOALS AND MILESTONES
Goal(s)	
Milestone Year 1	
Milestone Year 2	
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	

BMP 2C	MEASURABLE GOALS AND MILESTONES
Goal(s)	
Milestone Year 1	
Milestone Year 2	
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	

BMP 2D	MEASURABLE GOALS AND MILESTONES
Goal(s)	
Milestone Year 1	
Milestone Year 2	
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	

BEST MANAGEMENT PRACTICES FOR CONSTRUCTION SITE RUNOFF PROGRAM	
BMP 3A	MEASURABLE GOALS AND MILESTONES
Goal(s)	Increase inspections
Milestone Year 1	Preconstruction meetings will be held for larger projects and daily construction
Milestone Year 2	inspection on all jobsites
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	

BMP 3B	MEASURABLE GOALS AND MILESTONES
Goal(s)	
Milestone Year 1	
Milestone Year 2	
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	

BMP 3C	MEASURABLE GOALS AND MILESTONES
Goal(s)	
Milestone Year 1	
Milestone Year 2	
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	

BMP 3D	MEASURABLE GOALS AND MILESTONES
Goal(s)	
Milestone Year 1	
Milestone Year 2	
Milestone Year 3	

Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

Milestone Year 4	
Milestone Year 5	

BEST MANAGEMENT PRACTICES FOR PERMANENT (POST-CONSTRUCTION) STORMWATER MANAGEMENT PROGRAM	
BMP 4A	MEASURABLE GOALS AND MILESTONES
Goal(s)	Plans Review
Milestone Year 1	Formally adopt the Tennessee Permanent Stormwater Management and Design Guidance
Milestone Year 2	Manual.
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	
BMP 4B	MEASURABLE GOALS AND MILESTONES
Goal(s)	
Milestone Year 1	
Milestone Year 2	
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	

BMP 4C	MEASURABLE GOALS AND MILESTONES
Goal(s)	
Milestone Year 1	
Milestone Year 2	
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	
BMP 4D	MEASURABLE GOALS AND MILESTONES
Goal(s)	
Milestone Year 1	
Milestone Year 2	
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	

BEST MANAGEMENT PRACTICES FOR MUNICIPAL POLLUTION PREVENTION AND GOOD HOUSEKEEPING	
BMP 5A	MEASURABLE GOALS AND MILESTONES
Goal(s)	Waste Management
Milestone Year 1	Establish strict procedure for waste disposal in maintenance areas
Milestone Year 2	
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	
BMP 5B	MEASURABLE GOALS AND MILESTONES
Goal(s)	
Milestone Year 1	
Milestone Year 2	
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	

BMP 5C	MEASURABLE GOALS AND MILESTONES
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Phase II Stormwater Permit Notice of Intent (NOI)
Phase II Municipal Separate Storm Sewer Systems (MS4)

Goal(s)	
Milestone Year 1	
Milestone Year 2	
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	
BMP 5D	MEASURABLE GOALS AND MILESTONES
Goal(s)	
Milestone Year 1	
Milestone Year 2	
Milestone Year 3	
Milestone Year 4	
Milestone Year 5	

CITY OF GREENBRIER

Addendum to Phase II Stormwater Permit Notice of Intent (NOI)

PART II – DESCRIPTION OF STORM SEWER SYSTEM

ITEM D – Identifying Streams with Unavailable Parameters or Exceptional Tennessee Waters

The Proposed Final Version 2016 303(d) LIST for the Red River Watershed notes Waterbody ID TN05130206 003-1320 Unnamed tributary of Carr Creek (See Attached).

The identified municipal point source on the 2016 303(d) LIST for the Red River Watershed is the sewage treatment plant. Construction is almost complete to remediate some of the overflow issues during heavy rainfall events. This project is estimated to cost \$3.5 Million. It includes an SBR Tank, a sludge digester, Upsizing screw pumps and adding filters.

PART V – YOUR PROPOSED STORMWATER QUALITY MANAGEMENT PROGRAM

SECTION 1 – Public Education and Outreach and Public Involvement/Participation

A. Current Activities

1. The public education program targets erosion and sediment control on both large projects and small disturbances, animal waste, household hazardous waste, litter, fertilizers, pesticides and yard waste. Program information on erosion control, sanitary sewer systems, animal waste, hazardous waste, litter, fertilizers, pesticides and yard waste is available at city hall and on the city website. It is also available to all local schools.
2. Information on stormwater issues and waste disposal, as well as notices of recycle opportunities are published with water bills. Information was previously posted on the government access TV channel, but is no longer available.

There is a significant increase in awareness among the general public and the area developers regarding the city's commitment to addressing environmental issues. This is measured by an increase in public inquiries and incident reporting as well as noticeable care taken by builders and developers on local construction projects. The success of the community volunteer stream cleanup efforts and the annual City Cleanup Day may also be attributed to the public outreach.

3. Information can be found on water bills, on the city website www.greenbriertn.org/building_codes and on mailings as necessary.

SECTION 3 – Construction Site Stormwater Runoff Program

A. Current Activities

11. The City Reviewing Engineer and the Building & Codes Official evaluate plan presentations based on federal, state, and city regulations. Those include structural BMPs for construction and post-construction activities. Most site plans are also approved by the Planning Commission.

12. All comments and complaints from the public are received by the Building & Codes Official. They may be addressed through conversation or site visit investigation. The City Reviewing Engineer may be included for technical input.

SECTION 4 – Permanent Stormwater Management at New Development and Redevelopment

A. Current Activities

1. The City Reviewing Engineer and the Building & Codes Official evaluate submittals to determine effectiveness of the site plans to meet zoning ordinances, comply with landscape regulations and control both stormwater quantity and quality.

Table 4 NPDES Permitted WWTFs in Impaired Subwatersheds or Drainage Areas

NPDES Permit No.	Facility	Design Flow	Receiving Stream
		[MGD]	
TN0020621	Greenbrier STP	0.74	Unnamed Trib to Carr Creek at Mile 10.3
TN0020656	Clarksville STP	25	Cumberland River at Mile 125.0
TN0021296	Fort Campbell STP	4	Little West Fork Creek at Mile 10.4
TN0021865	Portland STP	1.9	Summers Branch at Mile 8.6
TN0024961	Springfield STP	3.4	Sulphur Fork at Mile 23.2
TN0058076	Jo Byrns School	0.025	Unnamed Trib to Sturgeon Creek at Mile 2.4
TN0059404	White House STP	1.4	Frey Branch at Mile 2.2

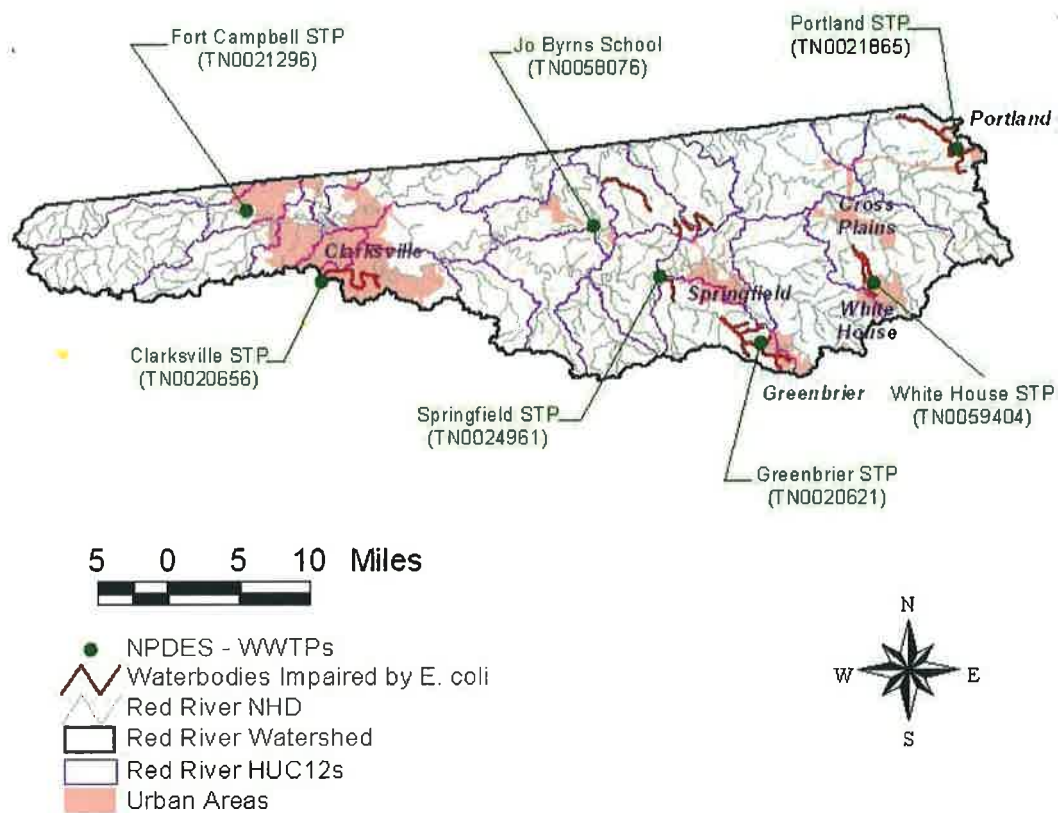


Figure 6. NPDES Regulated Point Sources in and near Impaired Subwatersheds and Drainage Areas of the Red River Watershed.

Draft Version 2016 303(d) LIST (Red River Watershed continued)

Waterbody ID	Impacted Waterbody	County	Miles/Acres Impaired	CAUSE (Pollutant)	Pollutant Source	COMMENTS
TN05130206 003_0100	CHAMBERS SPRING BRANCH	Robertson	4.3	Alteration to stream-side or littoral vegetation Loss of biological integrity due to siltation L	Pasture Grazing Unrestricted Cattle Access L	Category 5 (One or more uses impaired.) TMDLs needed.
TN05130206 003_0300	PEPPERS BRANCH	Robertson	4.2	Alteration to stream-side or littoral vegetation Loss of biological integrity due to siltation L	Pasture Grazing L	Category 5. (One or more uses impaired.) TMDLs needed. Segment contains a large wetland area.
TN05130206 003_1100	WARTRACE CREEK	Robertson	0.72	Temperature Alterations Flow Alterations L NA	Upstream Impoundment L	Category 5. (One or more uses impaired.) TMDL needed. Flow alteration is 4c (Impairment not caused by pollutant).
TN05130206 003_1150	WARTRACE CREEK	Robertson	6.32	Alteration to stream-side or littoral vegetation Loss of biological integrity due to siltation L	Discharges from MS4 area L	Category 5. (One or more uses impaired.) TMDLs needed.
TN05130206 003_1200	BLACK BRANCH	Robertson	1.87	Other Anthropogenic Substrate Alterations L	Discharges from MS4 area L	Category 5. (One or more uses impaired.) TMDL needed.
TN05130206 003_1300	CARR CREEK	Robertson	2.9	Escherichia coli NA	Collection System Failure	Category 4a. EPA approved a pathogen TMDL that addresses the known pollutant on 3/28.
TN05130206 003_1320	UNNAMED TRIB TO CARR CREEK	Robertson	1.6	Nitrate+Nitrite Total Phosphorus Temperature Alterations Escherichia coli L L L NA	Municipal Point Source	Category 5. (One or more uses impaired.) TMDLs needed. EPA approved a pathogen TMDL that addresses some of the known pollutants on 3/28/08. (This segment was identified as 1220 in TMDL.)
TN05130206 003_1350	CARR CREEK	Robertson	7.8	Escherichia coli L	Collection System Failure	Category 5. (One or more uses impaired.) TMDL needed.
TN05130206 003_1355	CARR CREEK	Robertson	11.3	Nitrate+Nitrite Total Phosphorus Escherichia coli L L NA	Collection System Failure	Category 5. (One or more uses impaired.) TMDLs needed. EPA approved a pathogen TMDL that addresses some of the known pollutants on 3/28/08. (This segment was identified as 1255 in TMDL.)
TN05130206 003_1360	BROWNS FORK	Robertson	6.2	Escherichia coli L	Pasture Grazing	Category 5. (One or more uses impaired.) TMDL needed.

Summary of TMDLs, WLAs, & LAs expressed as daily loads for Impaired Waterbodies in the Red River Watershed (HUC 05130206)

HUC-12 Subwatershed (05130206__) or Drainage Area (DA)	Impaired Waterbody Name	Impaired Waterbody ID	TMDL	MOS	WLAs				LAs
					WWTFs ^a	Leaking Collection Systems	MS4s		
			[CFU/day]	[CFU/day]	[CFU/day]	[CFU/day]	[CFU/day/acre]	[CFU/day/acre]	
0101 (DA)	Summers Branch	TN051302060024 – 0150	2.30 x 10 ¹⁰ * Q	2.30 x 10 ⁹ * Q	6.767 x 10 ¹⁰	0	1.046 x 10 ⁵ * Q – 3.418 x 10 ⁶	1.046 x 10 ⁵ * Q – 3.418 x 10 ⁶	1.046 x 10 ⁵ * Q – 3.418 x 10 ⁶
0201 (DA)	Frey Branch	TN051302060010 – 0321	2.30 x 10 ¹⁰ * Q	2.30 x 10 ⁹ * Q	4.986 x 10 ¹⁰	0	NA	NA	6.766 x 10 ⁵ * Q – 1.630 x 10 ⁷
0401	Buzzard Creek	TN051302060002 – 0400	1.20 x 10 ¹⁰ * Q	1.20 x 10 ⁹ * Q	NA	NA	NA	NA	6.966 x 10 ⁶ * Q
0407 (DA)	Seven Springs	TN051302060002 – 0700	2.30 x 10 ¹⁰ * Q	2.30 x 10 ⁹ * Q	NA	NA	7.494 x 10 ⁷ * Q	7.494 x 10 ⁷ * Q	7.494 x 10 ⁷ * Q
0407	Red River	TN051302060002 – 1000	2.30 x 10 ¹⁰ * Q	2.30 x 10 ⁹ * Q	4.719 x 10 ^{11,b}	0	2.289 x 10 ⁴ * Q – 9.454 x 10 ²	2.289 x 10 ⁴ * Q – 9.454 x 10 ²	2.289 x 10 ⁴ * Q – 9.454 x 10 ²
0503	Carr Creek	TN051302060003 – 1200	2.30 x 10 ¹⁰ * Q	2.30 x 10 ⁹ * Q	2.636 x 10 ¹⁰	0	9.698 x 10 ³ * Q – 1.235 x 10 ⁶	9.698 x 10 ³ * Q – 1.235 x 10 ⁶	9.698 x 10 ³ * Q – 1.235 x 10 ⁶
	UT to Carr Creek	TN051302060003 – 1220	2.30 x 10 ¹⁰ * Q	2.30 x 10 ⁹ * Q	2.636 x 10 ¹⁰	0	1.250 x 10 ⁴ * Q – 3.051 x 10 ⁷	1.250 x 10 ⁴ * Q – 3.051 x 10 ⁷	1.250 x 10 ⁴ * Q – 3.051 x 10 ⁷
	Carr Creek	TN051302060003 – 1255	2.30 x 10 ¹⁰ * Q	2.30 x 10 ⁹ * Q	2.636 x 10 ¹⁰	0	2.547 x 10 ³ * Q – 3.243 x 10 ⁶	2.547 x 10 ³ * Q – 3.243 x 10 ⁶	2.547 x 10 ³ * Q – 3.243 x 10 ⁶

Notes: NA = Not Applicable.

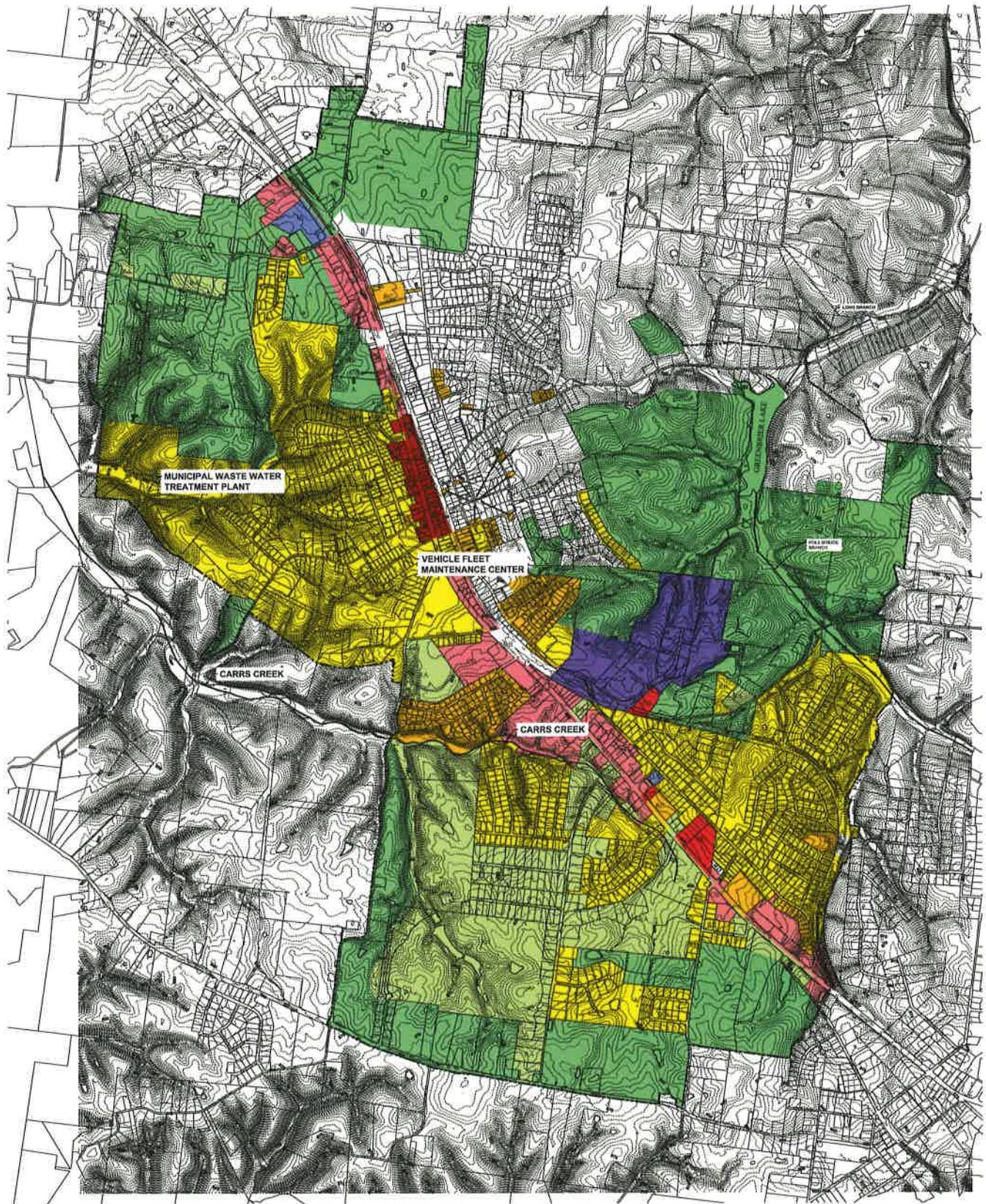
Q = daily instream mean flow

a. WLAs for WWTFs are expressed as E. coli loads (CFU/day). Future WWTFs must meet instream water quality standards at the point of discharge as specified in their NPDES permit.

b. The WLA listed is for the subwatershed and is equal to the sum of the WLAs for the individual facilities. WLAs for individual WWTFs corresponds to existing E. coli permit limits at facility design flow.

Table E-11. Summary of TMDLs, WLAs, & LAs expressed as daily loads for Impaired Waterbodies in the Red River Watershed (HUC 05130206)

Waterbody Description	Hydrologic Condition			Flow ^a [cfs]	PLRG [%]	TMDL [CFU/d]	MOS [CFU/d]	WLAs			LAs [CFU/d/ac]	
	Flow Regime	PDFE Range	Flow Range [cfs]					WWTFs ^b [CFU/d]	LCS [CFU/d]	MS4s [CFU/d/ac]		
Summers Branch Waterbody ID: TN05130206024 – 0150 HUC-12: 0101	High Flows	0 – 10	46.88 – 209.9	79.99	60.8	1,840 x 10 ¹²	1,840 x 10 ¹¹	6.767 x 10 ¹⁰	0		8,021 x 10 ⁷	8,021 x 10 ⁷
	Moist	10 – 40	14.86 – 46.88	21.73	60.8	4,998 x 10 ¹¹	4,998 x 10 ¹⁰				1,930 x 10 ⁷	1,930 x 10 ⁷
	Mid-Range	40 – 70	7.99 – 14.86	11.12	NA	2,558 x 10 ¹¹	2,558 x 10 ¹⁰				8,208 x 10 ⁶	8,208 x 10 ⁶
	Low Flows	70 – 100	2.94 – 7.99	4.89	4.6	1,125 x 10 ¹¹	1,125 x 10 ¹⁰				1,695 x 10 ⁶	1,695 x 10 ⁶
Frey Branch Waterbody ID: TN05130206010 – 0321 HUC-12: 0201	High Flows	0 – 10	8.70 – 31.94	13.16	NA	3,027 x 10 ¹¹	3,027 x 10 ¹⁰	4.986 x 10 ¹⁰	NA	NA		7,275 x 10 ⁷
	Moist	10 – 40	3.98 – 8.70	5.04	45.6	1,159 x 10 ¹¹	1,159 x 10 ¹⁰				1,780 x 10 ⁷	1,780 x 10 ⁷
	Mid-Range	40 – 70	2.92 – 3.98	3.38	NR	7,774 x 10 ¹⁰	7,774 x 10 ⁹				6,572 x 10 ⁶	6,572 x 10 ⁶
	Low Flows	70 – 100	2.17 – 2.92	2.46	10.5	5,658 x 10 ¹⁰	5,658 x 10 ⁹				3,471 x 10 ⁶	3,471 x 10 ⁶
Buzzard Creek Waterbody ID: TN05130206002 – 0400 HUC-12: 0401	High Flows	0 – 10	63.76 – 285.99	109.84	NR	1,318 x 10 ¹²	1,318 x 10 ¹¹	NA	NA	NA		7,652 x 10 ⁷
	Moist	10 – 40	16.67 – 63.76	26.87	NR	3,224 x 10 ¹¹	3,224 x 10 ¹⁰				1,872 x 10 ⁷	1,872 x 10 ⁷
	Mid-Range	40 – 70	6.67 – 16.67	11.26	13.2	1,351 x 10 ¹¹	1,351 x 10 ¹⁰				7,844 x 10 ⁶	7,844 x 10 ⁶
	Low Flows	70 – 100	0 – 6.67	2.54	16.0	3,048 x 10 ¹⁰	3,048 x 10 ⁹				1,769 x 10 ⁶	1,769 x 10 ⁶
Seven Springs Waterbody ID: TN05130206002 – 0700 HUC-12: 0407	High Flows	0 – 10	1.65 – 7.88	2.86	NR	6,578 x 10 ¹⁰	6,578 x 10 ⁹	NA	0		2,143 x 10 ⁶	2,143 x 10 ⁶
	Moist	10 – 40	0.45 – 1.65	0.74	NR	1,702 x 10 ¹⁰	1,702 x 10 ⁹				5,545 x 10 ⁷	5,545 x 10 ⁷
	Mid-Range	40 – 70	0.18 – 0.45	0.29	NR	6,670 x 10 ⁹	6,670 x 10 ⁸				2,173 x 10 ⁷	2,173 x 10 ⁷
	Low Flows	70 – 100	0.01 – 0.18	0.08	25.0	1,840 x 10 ⁹	1,840 x 10 ⁸				5,995 x 10 ⁶	5,995 x 10 ⁶
Red River Waterbody ID: TN05130206002 – 1000 HUC-12: 0407	High Flows	0 – 10	5023.1 – 15,235	7,338.5	NA	1,688 x 10 ¹⁴	1,688 x 10 ¹³	4,719 x 10 ^{11,c}	0		1,675 x 10 ⁶	1,675 x 10 ⁶
	Moist	10 – 40	1733.1 – 5023.1	2,549.2	NA	5,863 x 10 ¹³	5,863 x 10 ¹²				5,784 x 10 ⁷	5,784 x 10 ⁷
	Mid-Range	40 – 60	1021.2 – 1733.1	1,364.3	NA	3,138 x 10 ¹³	3,138 x 10 ¹²				3,071 x 10 ⁷	3,071 x 10 ⁷
	Dry	60 – 90	270.3 – 1021.2	597.44	NA	1,374 x 10 ¹³	1,374 x 10 ¹²				1,316 x 10 ⁷	1,316 x 10 ⁷
Carr Creek Waterbody ID: TN05130206003 – 1200 HUC-12: 0503	Low Flows	90 – 100	82.04 – 270.3	200.80	NA	4,618 x 10 ¹²	4,618 x 10 ¹¹	2,636 x 10 ¹⁰	0		4,075 x 10 ⁶	4,075 x 10 ⁶
	High Flows	0 – 10	96.20 – 429.43	164.21	60.8	3,777 x 10 ¹²	3,777 x 10 ¹¹				1,580 x 10 ⁶	1,580 x 10 ⁶
	Moist	10 – 40	26.49 – 96.20	41.26	NR	9,490 x 10 ¹¹	9,490 x 10 ¹⁰				3,878 x 10 ⁷	3,878 x 10 ⁷
	Mid-Range	40 – 70	11.75 – 26.49	18.69	NR	4,299 x 10 ¹¹	4,299 x 10 ¹⁰				1,689 x 10 ⁷	1,689 x 10 ⁷
ut to Carr Creek Waterbody ID: TN05130206003 – 1220 HUC-12: 0503	Low Flows	70 – 100	1.14 – 11.75	5.22	14.9	1,201 x 10 ¹¹	1,201 x 10 ¹⁰	2,636 x 10 ¹⁰	0		3,827 x 10 ⁶	3,827 x 10 ⁶
	High Flows	0 – 10	4.98 – 18.34	7.73	NA	1,778 x 10 ¹¹	1,778 x 10 ¹⁰				1,547 x 10 ⁶	1,547 x 10 ⁶
	Moist	10 – 40	2.22 – 4.98	2.84	NA	6,532 x 10 ¹⁰	6,532 x 10 ⁹				3,753 x 10 ⁷	3,753 x 10 ⁷
	Mid-Range	40 – 70	1.58 – 2.22	1.86	NA	4,278 x 10 ¹⁰	4,278 x 10 ⁹				1,405 x 10 ⁷	1,405 x 10 ⁷
HUC-12: 0503	Low Flows	70 – 100	1.14 – 1.58	1.30	NA	2,990 x 10 ¹⁰	2,990 x 10 ⁹				6,366 x 10 ⁶	6,366 x 10 ⁶



ZONING MAP GREENBRIER, TENNESSEE



MAP PREPARED BY:
KLOSER ENGINEERING SERVICES
3556 TOL ARDEN DRIVE, SUITE 7
SPRINGFIELD, TN 37172

MAP PRINTED: 11/11/17
THIS MAP IS NOT TO BE USED FOR
ENGINEERING PURPOSES

THIS MAP IS A REPRODUCTION OF THE
OFFICIAL ZONING MAP OF THE CITY OF
GREENBRIER, TENNESSEE ADOPTED ON
SEPTEMBER 10, 2008

ZONING LEGEND:

- PARCELS
- CORPORATE LIMITS
- RA - LOW DENSITY RESIDENTIAL
- RD - MEDIUM DENSITY RESIDENTIAL
- RC - HIGH DENSITY RESIDENTIAL
- RD - MOBILE HOME PARK
- CA - TOWN CENTER COMMERCIAL
- CB - HIGHWAY COMMERCIAL
- CC - GENERAL COMMERCIAL
- IA - RESTRICTIVE INDUSTRIAL
- IB - GENERAL INDUSTRIAL
- A - AGRICULTURE
- CREEK

NOTE:

CARRS CREEK IS A 30(D) STREAM





STORMWATER DISCHARGE MAP

GREENBRIER, TENNESSEE

LEGEND:

- PARCELS
- CORPORATE LIMITS
- CREEK

NOTE:

CARRS CREEK IS A 300(D) STREAM



MAP PREPARED BY:
KRAMER ENGINEERING SERVICES
3156 TOM ALSTIN HWY. SUITE 7
SPRINGFIELD, TN 37172

MAP PRINTED: 6/2017
THIS MAP IS NOT TO BE USED FOR
ENGINEERING PURPOSES



Mayor & Board of Aldermen

City Superintendent

Building & Codes

Maintenance

Water

Sewer

Sanitation

Police

Fire

Streets

Parks

Note:

Each department head is responsible for the management of environmental and safety activities in their individual department.



CITY ORGANIZATIONAL CHART
GREENBRIER, TN

DATE: 10/13/15

SHEET NO.



CITY OF GREENBRIER – DAILY STORMWATER LOG

In accordance with Ordinance 10-05 daily stormwater compliance inspections are required on all projects holding a Tennessee Discharge Permit System – Stormwater Construction Permit.

This form is to be used as the daily diary to evaluate BMPs used during construction activities.

See the instructions for more information.

Date begun:	Project number:	Sub-account number:
-------------	-----------------	---------------------

The entire site shall be inspected to determine whether BMPs are being implemented and maintained in accordance with the project's site specific SWMP and the CDPS-SCP. The Erosion Control Supervisor (ECS) or Superintendent shall identify if additional BMPs are needed, can be removed, or need maintenance. The condition of the currently used BMPs shall be recorded, using one or more of the following letters: (I) Incorrect Installation; (M) Maintenance is needed; (F) BMP failed to operate; (A) Additional BMP is needed; (R) Remove BMP. Only BMPs with the conditions above need be recorded. (Use the extra page at the end of this form if needed.)

The Project Engineer will approve and the Superintendent shall direct the work associated with any BMPs identified in this daily log to ensure compliance with the site specific SWMP and the CDPS-SCP.

CDPS-SCP States: "BMPs that are not operating effectively, have proven to be inadequate, or have failed must be addressed as soon as possible, immediately in most cases."

Location	BMP Type	Condition	Notes/Comments	Date Completed & Initials

**** ALL BMPs ARE IN OPERATING CONDITION AND NO MAINTENANCE IS NEEDED.**
(Initial the box to the right when this applies)

Comments/General notes: (attach photos if necessary)

Inspection signature:

Superintendent or ECS Name: (Print)	Signature:	Date signed:
-------------------------------------	------------	--------------

Stormwater Management Field Daily Inspection Report Instructions

Inspect all erosion and sediment control BMPs throughout the entire construction site – observe, record, and determine their effectiveness. If additional BMPs are needed or any BMP is not operating effectively, it shall be recorded on this form and addressed immediately.

Location: Record the site location (e.g., project station number, mile marker, intersection quadrant, etc.).

BMP Type: Indicate the type of BMP at this location that requires attention (e.g., silt fence, erosion logs, soil retention blankets, etc.).

Condition: Identify the condition of the BMP, using one or more of the following letters: (I) Incorrect Installation, (M) Maintenance is needed (i.e., sediment needs to be removed), (F) BMP Failed to operate, (A) Additional BMP is needed, (R) Remove the BMP.

** If all BMPs are in operating condition and no BMP maintenance is needed, sign and initial the box to the right of the statement.

Notes/Comments: Provide the proposed corrective action needed to bring the area or BMP into compliance.

Date Completed & Initials: Date and initial when the corrective action was completed.

Inspection Signature: Sign the form when the inspection has been completed.

Place the completed daily stormwater log sheet(s) in the SWMP Notebook.

ORDINANCE 10-05

**CITY OF GREENBRIER
STORMWATER
ORDINANCE**

TABLE OF CONTENTS

	PAGE
Section 1. General provisions	1
(1) Purpose	1
(2) Administering entity	2
Section 2. Definitions	2
Section 3. Land disturbance permits	7
(1) When required	7
(2) Building permit	8
(3) Exemptions	8
(4) Application for a land disturbance permit	8
(5) Review and approval of application	9
(6) Permit duration	10
(7) Notice of construction	10
(8) Performance bonds	11
Section 4. Stormwater system design and management standards	12
(1) Stormwater design or BMP manual	12
(2) General performance criteria for stormwater management	13
(3) Minimum control requirements	13
(4) Stormwater management plan requirements	14
(5) Sediment and erosion control plan requirements	18
Section 5. Post construction	21
(1) As built plans	21
(2) Landscaping and stabilization requirements	21
(3) Inspection of stormwater management facilities	22
(4) Records of installation and maintenance activities	22
(5) Failure to meet or maintain design or maintenance standards	22
Section 6. Waivers (Post-Construction)	23
(1) General	23
(2) Conditions for waiver	23
(3) Downstream damage, etc. prohibited	24
(4) Land disturbance permit not to be issued where waiver requested	24

	PAGE
Section 7. Existing locations and developments	24
(1) Requirements for all existing locations and developments	24
(2) Requirements for existing problem locations	26
(3) Inspection of existing facilities	26
(4) Corrections of problems subject to appeal	26
Section 8. Illicit discharges	26
(1) Scope	26
(2) Prohibition of illicit discharges	27
(3) Prohibition of illicit connections	28
(4) Reduction of stormwater pollutants by the use of best management practices	28
(5) Notification of spills	28
Section 9. Enforcement	29
(1) Enforcement authority	29
(2) Notification of violation	29
(3) Conflicting standards	31
Section 10. Penalties	31
(1) Violations	31
(2) Penalties	31
(3) Measuring civil penalties	32
(4) Recovery of damages and costs	33
(5) Other remedies	33
(6) Remedies cumulative	33
Section 11. Appeals	33
(1) Appeals to be in writing	33
(2) Public hearing	33
(3) Appealing decisions of the municipality's governing body	34

ORDINANCE NO. _____

CITY OF GREENBRIER

**AN ORDINANCE TO ESTABLISH STORMWATER MANAGEMENT REGULATIONS
FOR THE CITY OF GREENBRIER, TENNESSEE**

SECTION 1. GENERAL PROPOSES

(1). **Purpose.** It is the purpose of this ordinance to:

- (a) Protect, maintain, and enhance the environment of the City of Greenbrier and the public health, safety and the general welfare of the citizens of the city, by controlling discharges of pollutants to the city's stormwater system and to maintain and improve the quality of the receiving waters into which the stormwater outfalls flow, including, without limitation, lakes, rivers, streams, ponds, wetlands, and groundwater of the city.
- (b) Enable the City of Greenbrier to comply with the National Pollution Discharge Elimination System permit (NPDES) and applicable regulations, 40 CFR §122.26 for stormwater discharges.
- (c) Allow the City of Greenbrier to exercise the powers granted in Tennessee Code Annotated §68-221-1105, which provides that, among other powers municipalities have with respect to stormwater facilities, is the power by ordinance or resolution to:
 - (1) Exercise general regulation over the planning, location, construction, and operation and maintenance of stormwater facilities in the municipality, whether or not owned and operated by the municipality;

- (2) Adopt any rules and regulations deemed necessary to accomplish the purposes of this statute, including the adoption of a system of fees for services and permits;
- (3) Establish standards to regulate the quantity of stormwater discharged and to regulate stormwater contaminants as may be necessary to protect water quality;
- (4) Review and approve plans and plats for stormwater management in proposed subdivisions or commercial developments;
- (5) Issue permits for stormwater discharges, or for the construction, alteration, extension, or repair of stormwater facilities;
- (6) Suspend or revoke permits when it is determined that the permittee has violated any applicable ordinance, resolution, or condition of the permit;
- (7) Regulate and prohibit discharges into stormwater facilities of sanitary, industrial, or commercial sewage or waters that have otherwise been contaminated; and
- (8) Expend funds to remediate or mitigate the detrimental effects of contaminated land or other sources of stormwater contamination, whether public or private.

(2). Administering entity.

The Greenbrier Building and Codes Official shall administer the provisions of this ordinance.

SECTION 2. DEFINITIONS

For the purpose of this chapter, the following definitions shall apply: Words used in the singular shall include the plural, and the plural shall include the singular; words used in the present tense shall include the future tense. The word "shall" is mandatory and not discretionary. The word "may" is permissive. Words not defined in this section shall be construed to have the meaning given by common and ordinary use as defined in the latest edition of Webster's Dictionary.

- (1) "As built plans" means drawings depicting conditions as they were actually constructed.
- (2) "Best management practices" or "BMPs" are physical, structural, and/or managerial practices that, when used singly or in combination, prevent or reduce pollution of water, that have been approved by the City of Greenbrier, and that have been incorporated by reference into this ordinance as if fully set out therein.
- (3) "Channel" means a natural or artificial watercourse with a definite bed and banks that conducts flowing water continuously or periodically.
- (4) "Community water" means any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wetlands, wells and other bodies of surface or subsurface water, natural or artificial, lying within or forming a part of the boundaries of the City of Greenbrier.
- (5) "Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.
- (6) "Design storm event" means a hypothetical storm event, of a given frequency interval and duration, used in the analysis and design of a stormwater facility.
- (7) "Discharge" means dispose, deposit, spill, pour, inject, seep, dump, leak or place by any means, or that which is disposed, deposited, spilled, poured, injected,

seeped, dumped, leaked, or placed by any means including any direct or indirect entry of any solid or liquid matter into the municipal separate storm sewer system.

- (8) "Easement" means an acquired privilege or right of use or enjoyment that a person, party, firm, corporation, municipality or other legal entity has in the land of another.
- (9) "Erosion" means the removal of soil particles by the action of water, wind, ice or other geological agents, whether naturally occurring or acting in conjunction with or promoted by anthropogenic activities or effects.
- (10) "Erosion and sediment control plan" means a written plan (including drawings or other graphic representations) that is designed to minimize the accelerated erosion and sediment runoff at a site during construction activities.
- (11) "Hotspot" ("priority area") means an area where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater.
- (12) "Illicit connections" means illegal and/or unauthorized connections to the municipal separate stormwater system whether or not such connections result in discharges into that system.
- (13) "Illicit discharge" means any discharge to the municipal separate storm sewer system that is not composed entirely of stormwater and not specifically exempted under §3(3).
- (14) "Land disturbing activity" means any activity on property that results in a change in the existing soil cover (both vegetative and non-vegetative) and/or the existing soil topography. Land-disturbing activities include, but are not limited to,

development, re-development, demolition, construction, reconstruction, clearing, grading, filling, and excavation.

- (15) "Maintenance" means any activity that is necessary to keep a stormwater facility in good working order so as to function as designed. Maintenance shall include complete reconstruction of a stormwater facility if reconstruction is needed in order to restore the facility to its original operational design parameters.
- Maintenance shall also include the correction of any problem on the site property that may directly impair the functions of the stormwater facility.
- (16) "Maintenance agreement" means a document recorded in the land records that acts as a property deed restriction, and which provides for long-term maintenance of stormwater management practices.
- (17) "Municipal separate storm sewer system (MS4)" ("Municipal separate stormwater system") means the conveyances owned or operated by the municipality for the collection and transportation of stormwater, including the roads and streets and their drainage systems, catch basins, curbs, gutters, ditches, man-made channels, and storm drains.
- (18) "National Pollutant Discharge Elimination System permit" or "NPDES permit" means a permit issued pursuant to 33 U.S.C. 1342.
- (19) "Off-site facility" means a structural BMP located outside the subject property boundary described in the permit application for land development activity.
- (20) "On-site facility" means a structural BMP located within the subject property boundary described in the permit application for land development activity.

- (21) "Peak flow" means the maximum instantaneous rate of flow of water at a particular point resulting from a storm event.
- (22) "Person" means any and all persons, natural or artificial, including any individual, firm or association and any municipal or private corporation organized or existing under the laws of this or any other state or country.
- (23) "Priority area" means "hot spot" as defined in § 2(11).
- (24) "Runoff" means that portion of the precipitation on a drainage area that is discharged from the area into the municipal separate stormwater system.
- (25) "Sediment" means solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.
- (26) "Sedimentation" means soil particles suspended in stormwater that can settle in stream beds and disrupt the natural flow of the stream.
- (27) "Soils Report" means a study of soils on a subject property with the primary purpose of characterizing and describing the soils. The soils report shall be prepared by a qualified soils engineer, who shall be directly involved in the soil characterization either by performing the investigation or by directly supervising employees.
- (28) "Stabilization" means providing adequate measures, vegetative and/or structural, that will prevent erosion from occurring.
- (29) "Stormwater" means stormwater runoff, snow melt runoff, surface runoff, street wash waters related to street cleaning or maintenance, infiltration and drainage.

- (30) "Stormwater management" means the programs to maintain quality and quantity of stormwater runoff to pre-development levels.
- (31) "Stormwater management facilities" means the drainage structures, conduits, ditches, combined sewers, sewers, and all device appurtenances by means of which stormwater is collected, transported, pumped, treated or disposed of.
- (32) "Stormwater management plan" means the set of drawings and other documents that comprise all the information and specifications for the programs, drainage systems, structures, BMPs, concepts and techniques intended to maintain or restore quality and quantity of stormwater runoff to pre-development levels.
- (33) "Stormwater runoff" means flow on the surface of the ground, resulting from precipitation.
- (34) "Stormwater utility" means the stormwater utility created by ordinance of the city to administer the stormwater management ordinance, and other stormwater rules and regulations adopted by the municipality.
- (35) "Structural BMPs" means devices that are constructed to provide control of stormwater runoff.
- (36) "Surface water" includes waters upon the surface of the earth in bounds created naturally or artificially including, but not limited to, streams, other water courses, lakes and reservoirs.
- (37) "Watercourse" means a permanent or intermittent stream or other body of water, either natural or man-made, which gathers or carries surface water.
- (38) "Watershed" means all the land area that contributes runoff to a particular point along a waterway.

SECTION 3. LAND DISRURBANCE PERMITS.

(1). When required.

- (a) Every person will be required to obtain a land disturbance permit from the City of Greenbrier in the following cases:

- (1) Land disturbing activity disturbs one-fourth (1/4) or more acres of land;
- (2) Land disturbing activity of less than one-fourth (1/4) acre of land if such activity is part of a larger common plan of development that affects one-fourth (1/4) or more acre of land;
- (3) Land disturbing activity of less than one-fourth (1/4) acre of land, if in the discretion of the City of Greenbrier such activity poses a unique threat to water, or public health or safety;
- (4) The creation and use of borrow pits.

- (2). Building permit. No building permit shall be issued until the applicant has obtained a land disturbance permit where the same is required by this ordinance.

- (3). Exemptions. The following activities are exempt from the permit requirement:

- (a) Any emergency activity that is immediately necessary for the protection of life, property, or natural resources.
- (b) Existing nursery and agricultural operations conducted as a permitted main or accessory use.
- (c) Any logging or agricultural activity that is consistent with an approved farm conservation plan or a timber management plan prepared or approved by the State of Tennessee.
- (d) Additions or modifications to existing single family structures.

(4). Application for a land disturbance permit.

(a) Each application shall include the following:

- (1) Name of applicant;
- (2) Business or residence address of applicant;
- (3) Name, address and telephone number of the owner of the property of record in the office of the assessor of property;
- (4) Address and legal description of subject property including the tax reference number and parcel number of the subject property;
- (5) Name, address and telephone number of the contractor and any subcontractor(s) who shall perform the land disturbing activity and who shall implement the erosion and sediment control plan;
- (6) A statement indicating the nature, extent and purpose of the land disturbing activity including the size of the area for which the permit shall be applicable and a schedule for the starting and completion dates of the land disturbing activity.
- (7) Where the property includes a sinkhole, the applicant shall obtain from the Tennessee Department of Environment and Conservation appropriate permits.
- (8) The applicant shall obtain from any other state or federal agency any other appropriate environmental permits that pertain to the property. However, the inclusion of those permits in the application shall not foreclose the City of Greenbrier from imposing additional development requirements

and conditions, commensurate with this ordinance, on the development of property covered by those permits.

(b) Each application shall be accompanied by:

- (1) A sediment and erosion control plan as described in §5(5).
- (2) A stormwater management plan as described in §5(4), providing for stormwater management during the land disturbing activity and after the activity has been completed.
- (3) Each application for a land disturbance permit shall be accompanied by payment of land disturbance permit and other stormwater management fees, which shall be set by resolution or ordinance.

(5). Review and approval of application.

(a) The Building and Codes Official will review each application for a land disturbance permit to determine its conformance with the provisions of this ordinance. Within 7 days after receiving an application, the Building and Codes Official shall provide one of the following responses in writing:

- (1) Approval of the permit application;
- (2) Approval of the permit application, subject to such reasonable conditions as may be necessary to secure substantially the objectives of this ordinance, and issue the permit subject to these conditions; or
- (3) Denial of the permit application, indicating the reason(s) for the denial.

(b) If the City of Greenbrier has granted conditional approval of the permit, the applicant shall submit a revised plan that conforms to the conditions established by the City of Greenbrier. However, the applicant shall be allowed to proceed

with his land disturbing activity so long as it conforms to conditions established by the City of Greenbrier.

- (c) No development plans will be released until the land disturbance permit has been approved.

(6). Permit duration.

Every land disturbance permit shall expire and become null and void if substantial work authorized by such permit has not commenced within one hundred eighty (180) calendar days of issuance, or is not complete within eighteen (18) months from the date of the commencement of construction.

(7). Notice of construction.

The applicant must notify the Building and Codes Official ten (10) working days in advance of the commencement of construction. Regular inspections of the stormwater management system construction shall be conducted by the Building and Codes Official. All inspections shall be documented and written reports prepared that contain the following information:

- (1) The date and location of the inspection;
- (2) Whether construction is in compliance with the approved stormwater management plan;
- (3) Variations from the approved construction specifications;
- (4) Any violations that exist.

(8). Performance bonds.

- (a) The City of Greenbrier may, at its discretion, require the submittal of a performance security or performance bond prior to issuance of a permit in order

to ensure that the stormwater practices are installed by the permit holder as required by the approved stormwater management plan. The amount of the installation performance security or performance bond shall be the total estimated construction cost of the structural BMPs approved under the permit plus any reasonably foreseeable additional related costs, e.g., for damages or enforcement. The performance security shall contain forfeiture provisions for failure to complete work specified in the stormwater management plan. The applicant shall provide an itemized construction cost estimate complete with unit prices which shall be subject to acceptance, amendment or rejection by the City of Greenbrier. Alternatively the City of Greenbrier shall have the right to calculate the cost of construction cost estimates.

- (b) The performance security or performance bond shall be released in full only upon submission of as-built plans and written certification by a registered professional engineer licensed to practice in Tennessee that the structural BMP has been installed in accordance with the approved plan and other applicable provisions of this ordinance. The Building and Codes Official will make a final inspection of the structural BMP to ensure that it is in compliance with the approved plan and the provisions of this ordinance. Provisions for a partial pro-rata release of the performance security or performance bond based on the completion of various development stages can be made at the discretion of the City of Greenbrier.

SECTION 4. STORMWATER SYSTEM DESIGN AND MANAGEMENT STANDARDS.

- (1) Stormwater design or BMP manual.

- (a) Adoption. The municipality adopts as its stormwater design and best management practices (BMP) manual the following publications, which are incorporated by reference in this ordinance as is fully set out herein:
 - (1) TDEC Sediment and Erosion Control Manual
 - (2) TDEC Manual for Post Construction
 - (b) This manual includes a list of acceptable BMPs including the specific design performance criteria and operation and maintenance requirements for each stormwater practice. The manual may be updated and expanded from time to time, at the discretion of the governing body of the municipality, upon the recommendation of the City of Greenbrier, based on improvements in engineering, science, monitory and local maintenance experience. Stormwater facilities that are designed, constructed and maintained in accordance with these BMP criteria will be presumed to meet the minimum water quality performance standards.
- (2). General performance criteria for stormwater management. Unless granted a waiver or judged by the City of Greenbrier to be exempt, the following post construction performance criteria shall be addressed for stormwater management at all sites:
- (a) All site designs shall control the peak flow rates of stormwater discharge associated with design storms specified in this ordinance or in the BMP manual and reduce the generation of post construction stormwater runoff to pre-construction levels. These practices should seek to utilize pervious areas for stormwater treatment and to infiltrate stormwater runoff from driveways,

sidewalks, rooftops, parking lots, and landscaped areas to the maximum extent practical to provide treatment for both water quality and quantity.

- (b) To protect stream channels from degradation, specific channel protection criteria shall be provided as prescribed in the BMP manual.
- (c) Stormwater discharges to critical areas with sensitive resources (i.e., cold water fisheries, shellfish beds, swimming beaches, recharge areas, water supply reservoirs) may be subject to additional performance criteria, or may need to utilize or restrict certain stormwater management practices.
- (d) Stormwater discharges from "hot spots" may require the application of specific structural BMPs and pollution prevention practices.
- (e) Prior to or during the site design process, applicants for land disturbance permits shall consult with the City of Greenbrier to determine if they are subject to additional stormwater design requirements.
- (f) The calculations for determining peak flows as found in the BMP manual shall be used for sizing all stormwater facilities.

(3). Minimum control requirements.

- (a) Stormwater designs shall meet the multi-stage storm frequency storage requirements as identified in the BMP manual unless the City of Greenbrier has granted the applicant a full or partial waiver for a particular BMP under § 4.
- (b) If hydrologic or topographic conditions warrant greater control than that provided by the minimum control requirements, the City of Greenbrier may impose any and all additional requirements deemed necessary to control the volume, timing, and rate of runoff.

(4). Stormwater management plan requirements. The stormwater management plan shall include sufficient information to allow the City of Greenbrier to evaluate the environmental characteristics of the project site, the potential impacts of all proposed development of the site, both present and future, on the water resources, and the effectiveness and acceptability of the measures proposed for managing stormwater generated at the project site. To accomplish this goal the stormwater management plan shall include the following:

(a) Topographic Base Map: A 1" = 50 feet topographic base map of the site which extends a minimum of 25 feet beyond the limits of the proposed development and indicates:

- (1) Existing surface water drainage including streams, ponds, culverts, ditches, sink holes, wetlands; and the type, size, elevation, etc., of nearest upstream and downstream drainage structures;
- (2) Current land use including all existing structures, locations of utilities, roads, and easements;
- (3) All other existing significant natural and artificial features;
- (4) Proposed land use with tabulation of the percentage of surface area to be adapted to various uses; drainage patterns; locations of utilities, roads and easements; the limits of clearing and grading;
- (5) Proposed structural BMPs;
- (6) A written description of the site plan and justification of proposed changes in natural conditions may also be required.

(b) Calculations: Hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in the BMP manual. These calculations must show that the proposed stormwater management measures are capable of controlling runoff from the site in compliance with this ordinance and the guidelines of the BMP manual. Such calculations shall include:

- (1) A description of the design storm frequency, duration, and intensity where applicable;
- (2) Time of concentration;
- (3) Soil curve numbers or runoff coefficients including assumed soil moisture conditions;
- (4) Peak runoff rates and total runoff volumes for each watershed area;
- (5) Infiltration rates, where applicable;
- (6) Culvert, stormwater sewer, ditch and/or other stormwater conveyance capacities;
- (7) Flow velocities;
- (8) Data on the increase in rate and volume of runoff for the design storms referenced in the BMP manual; and
- (9) Documentation of sources for all computation methods and field test results.

(c) Soils Information: If a stormwater management control measure depends on the hydrologic properties of soils (e.g., infiltration basins), then a soils report shall be submitted. The soils report shall be based on on-site boring logs or soil pit profiles

and soil survey reports. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soil types present at the location of the control measure.

- (d) **Maintenance and Repair Plan:** The design and planning of all stormwater management facilities shall include detailed maintenance and repair procedures to ensure their continued performance. These plans will identify the parts or components of a stormwater management facility that need to be maintained and the equipment and skills or training necessary. Provisions for the periodic review and evaluation of the effectiveness of the maintenance program and the need for revisions or additional maintenance procedures shall be included in the plan. A permanent elevation benchmark shall be identified in the plans to assist in the periodic inspection of the facility.
- (e) **Landscaping Plan:** The applicant must present a detailed plan for management of vegetation at the site after construction is finished, including who will be responsible for the maintenance of vegetation at the site and what practices will be employed to ensure that adequate vegetative cover is preserved. Where it is required by the BMP, this plan must be prepared by a registered landscape architect licensed in Tennessee.
- (f) **Maintenance Easements:** The applicant must ensure access to the site for the purpose of inspection and repair by securing all the maintenance easements needed. These easements must be binding on the current property owner and all subsequent owners of the property and must be properly recorded in the land record.

(g) Maintenance Agreement:

- (1) The owner of property to be served by an on-site stormwater management facility must execute an inspection and maintenance agreement that shall operate as a deed restriction binding on the current property owner and all subsequent property owners.
- (2) The maintenance agreement shall:
 - (a) Assign responsibility for the maintenance and repair of the stormwater facility to the owner of the property upon which the facility is located and be recorded as such on the plat for the property by appropriate notation.
 - (b) Provide for a periodic inspection by the property owner for the purpose of documenting maintenance and repair needs and ensure compliance with the purpose and requirements of this ordinance. The property owner will arrange for this inspection to be conducted by a registered professional engineer licensed to practice in the State of Tennessee who will submit a sealed report of the inspection to the City of Greenbrier. It shall also grant permission to the city to enter the property at reasonable times and to inspect the stormwater facility to ensure that it is being properly maintained.
 - (c) Provide that the minimum maintenance and repair needs include, but are not limited to: the removal of silt, litter and other debris, the cutting of grass, grass cuttings and vegetation removal, and the

replacement of landscape vegetation, in detention and retention basins, and inlets and drainage pipes and any other stormwater facilities. It shall also provide that the property owner shall be responsible for additional maintenance and repair needs consistent with the needs and standards outlined in the BMP manual.

- (d) Provide that maintenance needs must be addressed in a timely manner, on a schedule to be determined by the City of Greenbrier.
- (e) Provide that if the property is not maintained or repaired within the prescribed schedule, the City of Greenbrier shall perform the maintenance and repair at its expense, and bill the same to the property owner. The maintenance agreement shall also provide that the City of Greenbrier stormwater utility's cost of performing the maintenance shall be a lien against the property.

- (3) The municipality shall have the discretion to accept the dedication of any existing or future stormwater management facility, provided such facility meets the requirements of this ordinance, and includes adequate and perpetual access and sufficient areas, by easement or otherwise, for inspection and regular maintenance. Any stormwater facility accepted by the municipality must also meet the municipality's construction standards and any other standards and specifications that apply to the particular stormwater facility in question.

- (h) Sediment and Erosion Control Plans:

The applicant must prepare a sediment and erosion control plan for all construction activities that complies with §5(5) below.

(5). Sediment and erosion control plan requirements.

The sediment and erosion control plan shall accurately describe the potential for soil erosion and sedimentation problems resulting from land disturbing activity and shall explain and illustrate the measures that are to be taken to control these problems. The length and complexity of the plan is to be commensurate with the size of the project, severity of the site condition, and potential for off-site damage. The plan shall be sealed by a registered professional engineer licensed in the state of Tennessee. The plan shall also conform to the requirements found in the BMP manual, and shall include at least the following:

- (a) Project Description - Briefly describe the intended project and proposed land disturbing activity including number of units and structures to be constructed and infrastructure required.
- (b) A topographic map with contour intervals of five (5) feet or less showing present conditions and proposed contours resulting from land disturbing activity.
- (c) All existing drainage ways, including intermittent and wet-weather. Include any designated floodways or flood plains.
- (d) A general description of existing land cover. Individual trees and shrubs do not need to be identified.
- (e) Stands of existing trees as they are to be preserved upon project completion, specifying their general location on the property. Differentiation shall be made between existing trees to be preserved, trees to be removed and proposed planted

trees. Tree protection measures must be identified, and the diameter of the area involved must also be identified on the plan and shown to scale. Information shall be supplied concerning the proposed destruction of exceptional and historic trees in setbacks and buffer strips, where they exist. Complete landscape plans may be submitted separately. The plan must include the sequence of implementation for tree protection measures.

- (f) Approximate limits of proposed clearing, grading and filling.
- (g) Approximate flows of existing stormwater leaving any portion of the site.
- (h) A general description of existing soil types and characteristics and any anticipated soil erosion and sedimentation problems resulting from existing characteristics.
- (i) Location, size and layout of proposed stormwater and sedimentation control improvements.
- (j) Proposed drainage network.
- (k) Proposed drain tile or waterway sizes.
- (l) Approximate flows leaving site after construction and incorporating water run-off mitigation measures. The evaluation must include projected effects on property adjoining the site and on existing drainage facilities and systems. The plan must address the adequacy of outfalls from the development: when water is concentrated, what is the capacity of waterways, if any, accepting stormwater off-site; and what measures, including infiltration, sheeting into buffers, etc., are going to be used to prevent the scouring of waterways and drainage areas off-site, etc.

- (m) The projected sequence of work represented by the grading, drainage and sedimentation and erosion control plans as related to other major items of construction, beginning with the initiation of excavation and including the construction of any sediment basins or retention facilities or any other structural BMP's.
- (n) Specific remediation measures to prevent erosion and sedimentation run-off. Plans shall include detailed drawings of all control measures used; stabilization measures including vegetation and non-vegetation measures, both temporary and permanent, will be detailed. Detailed construction notes and a maintenance schedule shall be included for all control measures in the plan.
- (o) Specific details for: the construction of rock pads, wash down pads, and settling basins for controlling erosion; road access points; eliminating or keeping soil, sediment, and debris on streets and public ways at a level acceptable to the City of Greenbrier. Soil, sediment, and debris brought onto streets and public ways must be removed by the end of the work day by machine, broom or shovel to the satisfaction of the City of Greenbrier. Failure to remove the sediment, soil or debris shall be deemed a violation of this ordinance.
- (p) Proposed structures; location (to the extent possible) and identification of any proposed additional buildings, structures or development on the site.
- (q) A description of on-site measures to be taken to recharge surface water into the ground water system through infiltration.

SECTION 5. POST CONSTRUCTION.

- (1). As built plans.

All applicants are required to submit actual as built plans for any structures located on-site after final construction is completed. The plan must show the final design specifications for all stormwater management facilities and must be sealed by a registered professional engineer licensed to practice in Tennessee. A final inspection by the City of Greenbrier is required before any performance security or performance bond will be released. The City of Greenbrier shall have the discretion to adopt provisions for a partial pro-rata release of the performance security or performance bond on the completion of various stages of development. In addition, occupation permits shall not be granted until corrections to all BMP's have been made and accepted by the City of Greenbrier.

(2). Landscaping and stabilization requirements.

(a) Any area of land from which the natural vegetative cover has been either partially or wholly cleared by development activities shall be revegetated according to a schedule approved by the City of Greenbrier. The following criteria shall apply to revegetation efforts:

- (1) Reseeding must be done with an annual or perennial cover crop accompanied by placement of straw mulch or its equivalent of sufficient coverage to control erosion until such time as the cover crop is established over ninety percent (90%) of the seeded area.
- (2) Replanting with native woody and herbaceous vegetation must be accompanied by placement of straw mulch or its equivalent of sufficient coverage to control erosion until the plantings are established and are capable of controlling erosion.

- (3) Any area of revegetation must exhibit survival of a minimum of seventy-five percent (75%) of the cover crop throughout the year immediately following revegetation. Revegetation must be repeated in successive years until the minimum seventy-five percent (75%) survival for one (1) year is achieved.
- (b) In addition to the above requirements, a landscaping plan must be submitted with the final design describing the vegetative stabilization and management techniques to be used at a site after construction is completed. This plan will explain not only how the site will be stabilized after construction, but who will be responsible for the maintenance of vegetation at the site and what practices will be employed to ensure that adequate vegetative cover is preserved.
- (3). Inspection of stormwater management facilities. Periodic inspections of facilities shall be performed as provided for in §5(4)(g)(2)(b).
- (4). Records of installation and maintenance activities. Parties responsible for the operation and maintenance of a stormwater management facility shall make records of the installation of the stormwater facility, and of all maintenance and repairs to the facility, and shall retain the records for at least 7 years. These records shall be made available to the City of Greenbrier during inspection of the facility and at other reasonable times upon request.
- (5). Failure to meet or maintain design or maintenance standards. If a responsible party fails or refuses to meet the design or maintenance standards required for stormwater facilities under this ordinance, the City of Greenbrier, after reasonable notice, may correct a violation of the design standards or maintenance needs by performing all necessary work

to place the facility in proper working condition. In the event that the stormwater management facility becomes a danger to public safety or public health, the City of Greenbrier shall notify in writing the party responsible for maintenance of the stormwater management facility. Upon receipt of that notice, the responsible person shall have 30 days to affect maintenance and repair of the facility in an approved manner. In the event that corrective action is not undertaken within that time, the City of Greenbrier may take necessary corrective action. The cost of any action by the City of Greenbrier under this section shall be charged to the responsible party.

SECTION 6. WAIVERS.

(1). General.

Every applicant shall provide for post construction stormwater management as required by this Ordinance, unless a written request is filed to waive this requirement. Requests to waive the stormwater management plan requirements shall be submitted to the City of Greenbrier for approval.

(2). Conditions for waiver. The minimum requirements for stormwater management may be waived in whole or in part upon written request of the applicant, provided that at least one of the following conditions applies:

- (a) It can be demonstrated that the proposed development is not likely to impair attainment of the objectives of this ordinance.
- (b) Alternative minimum requirements for on-site management of stormwater discharges have been established in a stormwater management plan that has been approved by the City of Greenbrier.

- (c) Provisions are made to manage stormwater by an off-site facility. The off-site facility must be in place and designed to provide the level of stormwater control that is equal to or greater than that which would be afforded by on-site practices. Further, the facility must be operated and maintained by an entity that is legally obligated to continue the operation and maintenance of the facility.
- (3). Downstream damage, etc. prohibited. In order to receive a waiver, the applicant must demonstrate to the satisfaction of the City of Greenbrier that the waiver will not lead to any of the following conditions downstream:
 - (a) Deterioration of existing culverts, bridges, dams, and other structures;
 - (b) Degradation of biological functions or habitat;
 - (c) Accelerated streambank or streambed erosion or siltation;
 - (d) Increased threat of flood damage to public health, life or property.
- (4). Land disturbance permit not to be issued where waiver requested. No land disturbance permit shall be issued where a waiver has been requested until the waiver is granted. If no waiver is granted, the plans must be resubmitted with a stormwater management plan.

SECTION 7. EXISTING LOCATION AND DEVELOPMENTS.

- (1). Requirements for all existing locations and developments.

The following requirements shall apply to all locations and development at which land disturbing activities have occurred previous to the enactment of this ordinance:

- (a) Denuded areas must be vegetated or covered under the standards and guidelines specified in the BMP manual and on a schedule acceptable to the City of Greenbrier.

- (b) Cuts and slopes must be properly covered with appropriate vegetation and/or retaining walls constructed.
- (c) Drainage ways shall be properly covered in vegetation or secured with rip-rapp, channel lining, etc., to prevent erosion.
- (d) Trash, junk, rubbish, etc. shall be cleared from drainage ways.
- (e) Stormwater runoff shall be controlled to the extent reasonable to prevent pollution of local waters. Such control measures may include, but are not limited to, the following:
 - (1) Ponds
 - (a) Detention pond
 - (b) Extended detention pond
 - (c) Wet pond
 - (d) Alternative storage measures
 - (2) Constructed wetlands
 - (3) Infiltration systems
 - (a) Infiltration/percolation trench
 - (b) Infiltration basin
 - (c) Drainage (recharge) well
 - (d) Porous pavement
 - (4) Filtering systems
 - (a) Catch basin inserts/media filter
 - (b) Sand filter
 - (c) Filter/absorption bed

- (d) Filter and buffer strips
 - (5) Open channel
 - (a) Swale
- (2). Requirements for existing problem locations. The City of Greenbrier shall in writing notify the owners of existing locations and developments of specific drainage, erosion or sediment problem affecting such locations and developments, and the specific actions required to correct those problems. The notice shall also specify a reasonable time for compliance.
- (3). Inspection of existing facilities. The City of Greenbrier may, to the extent authorized by state and federal law, establish inspection programs to verify that all stormwater management facilities, including those built before as well as after the adoption of this ordinance, are functioning within design limits. These inspection programs may be established on any reasonable basis, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type associated with higher than usual discharges of contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of the municipality's NPDES stormwater permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to: reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other BMPs.

- (4). Corrections of problems subject to appeal. Corrective measures imposed by the stormwater utility under this section are subject to appeal under §11 of this ordinance.

SECTION 8. ILLICIT DISCHARGES.

(1). Scope.

This section shall apply to all water generated on developed or undeveloped land entering the municipality's separate storm sewer system.

(2). Prohibition of illicit discharges.

No person shall introduce or cause to be introduced into the municipal separate storm sewer system any discharge that is not composed entirely of stormwater. The commencement, conduct or continuance of any non-stormwater discharge to the municipal separate storm sewer system is prohibited except as described as follows:

(a) Uncontaminated discharges from the following sources:

- (1) Water line flushing or other potable water sources,
- (2) Landscape irrigation or lawn watering with potable water,
- (3) Diverted stream flows,
- (4) Rising ground water,
- (5) Groundwater infiltration to storm drains,
- (6) Pumped groundwater,
- (7) Foundation or footing drains,
- (8) Crawl space pumps,
- (9) Air conditioning condensation,
- (10) Springs,
- (11) Non-commercial washing of vehicles,

- (12) Natural riparian habitat or wet-land flows,
 - (13) Swimming pools (if dechlorinated - typically less than one PPM chlorine),
 - (14) Fire fighting activities, and
 - (15) Any other uncontaminated water source.
- (b) Discharges specified in writing by the City of Greenbrier as being necessary to protect public health and safety.
 - (c) Dye testing is an allowable discharge if the City of Greenbrier has so specified in writing.
- (3). Prohibition of illicit connections.
- (a) The construction, use, maintenance or continued existence of illicit connections to the separate municipal storm sewer system is prohibited.
 - (b) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
- (4). Reduction of stormwater pollutants by the use of best management practices.
- Any person responsible for a property or premises, which is, or may be, the source of an illicit discharge, may be required to implement, at the person's expense, the BMP's necessary to prevent the further discharge of pollutants to the municipal separate storm sewer system. Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of stormwater associated with industrial activity, to the extent practicable, shall be deemed compliance with the provisions of this section.
- (5). Notification of spills.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting in, or may result in, illicit discharges or pollutants discharging into stormwater, the municipal separate storm sewer system, the person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials the person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, the person shall notify the City of Greenbrier in person or by telephone or facsimile no later than the next business day. Notifications in person or by telephone shall be confirmed by written notice addressed and mailed to the City of Greenbrier within three (3) business days of the telephone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least 7 years.

SECTION 9. ENFORCEMENT

(1). Enforcement authority.

The Building and Codes Official of the City of Greenbrier shall have the authority to issue notices of violation and citations, and to impose the civil penalties provided in this section.

(2). Notification of violation.

(a) Written Notice.

Whenever the Building and Codes Official of the City of Greenbrier finds that any permittee or any other person discharging stormwater has violated or is violating this ordinance or a permit or order issued hereunder, the director may serve upon such person written notice of the violation. Within ten (10) days of this notice, an explanation of the violation and a plan for the satisfactory correction and prevention thereof, to include specific required actions, shall be submitted to the director. Submission of this plan in no way relieves the discharger of liability for any violations occurring before or after receipt of the notice of violation.

(b) Consent Orders.

The Building and Codes Official is empowered to enter into consent orders, assurances of voluntary compliance, or other similar documents establishing an agreement with the person responsible for the noncompliance. Such orders will include specific action to be taken by the person to correct the noncompliance within a time period also specified by the order. Consent orders shall have the same force and effect as administrative orders issued pursuant to paragraphs (d) and (e) below.

(c) Show Cause Hearing.

The director may order any person who violates this ordinance or permit or order issued hereunder, to show cause why a proposed enforcement action should not be taken. Notice shall be served on the person specifying the time and place for the meeting, the proposed enforcement action and the reasons for such action, and a request that the violator show cause why this proposed enforcement action

should not be taken. The notice of the meeting shall be served personally or by registered or certified mail (return receipt requested) at least ten (10) days prior to the hearing.

(d) Compliance Order.

When the director finds that any person has violated or continues to violate this ordinance or a permit or order issued there under, he may issue an order to the violator directing that, following a specific time period, adequate structures, devices, be installed or procedures implemented and properly operated. Orders may also contain such other requirements as might be reasonably necessary and appropriate to address the noncompliance, including the construction of appropriate structures, installation of devices, self-monitoring, and management practices.

(e) Cease and Desist Orders.

When the director finds that any person has violated or continues to violate this ordinance or any permit or order issued hereunder, the director may issue an order to cease and desist all such violations and direct those persons in noncompliance to:

- (1) Comply forthwith; or
- (2) Take such appropriate remedial or preventive action as may be needed to properly address a continuing or threatened violation, including halting operations and terminating the discharge.
- (3). Conflicting standards. Whenever there is a conflict between any standard contained in this ordinance and in the BMP manual

adopted by the municipality under this ordinance, the strictest standard shall prevail.

SECTION 10. PENALTIES.

(1). Violations.

Any person who shall commit any act declared unlawful under this ordinance, who violates any provision of this ordinance, who violates the provisions of any permit issued pursuant to this ordinance, or who fails or refuses to comply with any lawful communication or notice to abate or take corrective action by the City of Greenbrier, shall be guilty of a civil offense.

(2). Penalties.

Under the authority provided in Tennessee Code Annotated §68-221-1106, the municipality declares that any person violating the provisions of this ordinance may be assessed a civil penalty by the City of Greenbrier of not less than fifty dollars (\$50.00) and not more than five thousand dollars (\$5,000.00) per day for each day of violation. Each day of violation shall constitute a separate violation.

(3). Measuring civil penalties. In assessing a civil penalty, the City of Greenbrier may consider:

- (a) The harm done to the public health or the environment;**
- (b) Whether the civil penalty imposed will be a substantial economic deterrent to the illegal activity;**
- (c) The economic benefit gained by the violator;**
- (d) The amount of effort put forth by the violator to remedy this violation;**
- (e) Any unusual or extraordinary enforcement costs incurred by the municipality;**

- (f) The amount of penalty established by ordinance or resolution for specific categories of violations; and
- (g) Any equities of the situation which outweigh the benefit of imposing any penalty or damage assessment.

(4). Recovery of damages and costs.

In addition to the civil penalty in subsection (2) above, the municipality may recover;

- (a) All damages proximately caused by the violator to the municipality, which may include any reasonable expenses incurred in investigating violations of, and enforcing compliance with, this ordinance, or any other actual damages caused by the violation.
- (b) The costs of the municipality's maintenance of stormwater facilities when the user of such facilities fails to maintain them as required by this ordinance.

(5). Other remedies.

The municipality may bring legal action to enjoin the continuing violation of this ordinance, and the existence of any other remedy, at law or equity, shall be no defense to any such actions.

(6). Remedies cumulative.

The remedies set forth in this section shall be cumulative, not exclusive, and it shall not be a defense to any action, civil or criminal, that one (1) or more of the remedies set forth herein has been sought or granted.

SECTION 11. APPEALS.

Pursuant to Tennessee Code Annotated §68-221-1106(d), any person aggrieved by the imposition of a civil penalty or damage assessment as provided by this ordinance may appeal said penalty or damage assessment to the municipality's governing body.

(1). Appeals to be in writing.

The appeal shall be in writing and filed with the municipal recorder or clerk within fifteen (15) days after the civil penalty and/or damage assessment is served in any manner authorized by law.

(2). Public hearing.

Upon receipt of an appeal, the municipality's governing body shall hold a public hearing within thirty (30) days. Ten (10) days prior notice of the time, date, and location of said hearing shall be published in a daily newspaper of general circulation. Ten (10) days notice by registered mail shall also be provided to the aggrieved party, such notice to be sent to the address provided by the aggrieved party at the time of appeal. The decision of the governing body of the municipality shall be final.

(3). Appealing decisions of the municipality's governing body. Any alleged violator may appeal a decision of the municipality's governing body pursuant to the provisions of Tennessee Code Annotated, title 27, chapter 8.

BE IT ENACTED by the Board of Mayor and Aldermen of Greenbrier, Tennessee that this ordinance shall take effect from and after its passage, the city requiring it.


Passed this 7 day of June, 2010

Recommended by Planning Commission: _____

1st Reading : 5-3-10

Public Hearing: 6-7-10

2nd Reading : 6-7-10

By 

Mayor Billy Wilson

Attest: 

City Recorder



Animal Waste

Animal waste is raw sewage: Scoop it, bag it, and place it in the trash.

Greenbrier is home to many animals. They have the potential to produce hundreds of pounds animal waste every day.

Roundworms, E. coli, and Giardia are just a few of the many harmful micro-organisms that can be transmitted from pet waste to humans. Some can last in your yard for as long as four years if not cleaned up. Children who play outside and adults who garden are at greatest risk of infection.



Animal waste is one of the causes of bacterial contamination of streams in Greenbrier.

The solution is safe and easy. **1) Scoop the poop, 2) put it in a plastic bag, 3) place it in the trash, and 4) wash your hands.**

Burial, composting, waste digesters, and letting it lay in yards contaminates water and jeopardizes human and pet health. Flushing is impractical for most people. At some point in the future, commercial composting technology may be sufficient to treat animal waste. Until then, using the landfill is the best alternative for pet waste.



Household Hazardous Waste

Anything that mixes with rain becomes storm water pollution. For that reason, it is important to dispose of household hazardous waste properly.

What is household hazardous waste (HHW)?

HHW are chemicals used in homes that are corrosive, ignitable, toxic or reactive and can present a threat or unreasonable risk to people or the environment. These materials turn into HHW when they are no longer usable or wanted.



Oil on streets washes into our storm drains, polluting our water and harming aquatic life

What are some examples of Household Hazardous Waste?

- Used oil
- Antifreeze
- Bleach
- Turpentine
- Paint thinner
- Bug sprays/killers
- Paint
- Leftover pesticides and fertilizers
- Batteries
- Upholstery/rug cleaner
- Oven cleaners
- Drain openers
- Furniture polish



Paint can turn toxic when it washes into a storm drain or stream

Each year, people who change their own motor oil in the US dump more oil into the environment than the amount spilled by the worst oil tanker spill in US history. Just one gallon of oil will pollute one million gallons of water.



Litter

Anything that gets in the path of a rain drop becomes storm water pollution. That includes litter.

Every year litter and other debris are removed from creeks in Greenbrier by volunteers of our community.

Never throw anything down storm drains or out of car windows.

Remember to keep truck loads covered to avoid accidental littering.

In April of each year, the City of Greenbrier has a clean up day. City residents can bring all their unwanted items to City Hall for proper disposal.



Litter clogs the path of a small stream



Pollution Prevention

A Guide to Yard Waste and Lawn Care

Lawn maintenance can make your house and yard more beautiful. But what we do to maintain our lawns can affect the environment around us.

When it rains, water flows off our yards, streets, and parking lots directly to our creeks and lakes without ever being cleaned. As it flows to storm drains, storm water can pick up anything in its path including things like oil, dirt, litter, pet waste and yard chemicals.

Fertilizers

Fertilizers are essentially nutrients used by plants to live. Most fertilizers contain nitrogen, phosphorus, and potassium but can contain other elements as well.

Just like humans, plants can only use so much food. Fertilizer not used by the plant is available to mix with rain and becomes storm water pollution.

Nutrients from fertilizers, such as phosphorus and nitrogen, promote algae blooms and excessive plant growth. Algae depletes oxygen making it unavailable to fish and other aquatic life. Algae blooms and excessive plants limit much needed sunlight.

- Apply fertilizers exactly where you want them
- Improve the health of your soil by adding compost and using organic mulches
- Use fertilizers sparingly
- Leave grass clippings on your lawn as a natural fertilizer
- Store fertilizers in areas that are covered to avoid mixing them with rain

Soil Testing

A soil test report gives you precise nutrient requirements for the soil type and plant type in your situation. Soil testing takes the guess-work out of lime and fertilizer purchases.

- Soil test your yard before applying lime or fertilizer

Pesticides

When it comes to pest control, the best defense is a strong offense - building healthy soil, selecting appropriate plants, watering effectively, and using mulch. An ounce of prevention is better than a pound of pesticide.

- Apply pesticides exactly where you want them
- Consider physical controls such as barriers, traps or handpicking instead of pesticides

- Avoid spraying pesticides onto driveways or sidewalks
- Store pesticides in areas that are covered to avoid mixing them with rain
- Use pesticides sparingly
- Avoid chemical applications when rain is forecast
- Protect beneficial insects by avoiding broad-spectrum pesticides
- Read pesticides labels carefully
- Be sure to identify the pest plant or insect so as to purchase the correct product

Yard Waste

Not only does yard waste cause blockages to the drainage system which leads to localized flooding, it can also quickly super-fertilize streams and lakes which leads to algae blooms and fish kills.

- Sweep up yard debris from streets and sidewalks instead of washing it away
- Blow leaves and grass clippings back into your yard instead of leaving them in the street to wash down the storm drain
- Never dump grass clippings and other yard waste into storm drains or on creek banks

Erosion Control

Sediment is a major contributor to storm water pollution. Sediment adds suspended solids to water, clogging the gills of fish, blocking sunlight, and affecting photosynthesis of aquatic plants and phytoplankton. The best way to control erosion is with vegetation. The roots of plants hold soil particles in place. The larger the root system the less likely soil will erode.

- Replant bare areas to avoid soil erosion
- Direct down spouts away from paved surfaces
- Sweep up soil from paved surfaces instead of washing it away
- Keep areas adjacent to streams, lakes and ponds heavily vegetated with large root systems

Fiction: Organic fertilizers are not harmful to the environment.

Fact: All fertilizers have the potential to be harmful when improperly applied. Fertilizers are essentially nutrients that plants need to survive. Whether a fertilizer is organic or synthetic (chemical), if over-applied the excess nutrients can be transported in storm water runoff to nearby creeks and lakes. Organic fertilizers are much more sustainable sources of nutrients, but a soil test will help prescribe the proper amount of fertilizer that should be applied.

Fiction: Grass clippings aren't a problem because they are natural and can biodegrade.

Fact: As grass clippings and other organic material decompose, the chemical reaction uses available oxygen to produce carbon dioxide. Grass clippings and other organic materials, when introduced to creeks and lakes, remove oxygen from the water which suffocates fish and other aquatic animals. Grass clippings can be left on the lawn to biodegrade.

Fiction: My yard care habits can't possibly have that much impact on water quality.

Fact: Research shows that an average 1,000 square foot lawn can generate up to 500 pounds of grass clippings each year. Grass clippings are full of nutrients that have been applied as fertilizer. With more than a 7,000 people in our area, the cumulative impact of our community on the water quality of our creeks and lakes is quite large.

Things To Discuss With Your Yard Care Service

If you use a professional yard care service, it is still up to you to make sure that your landscaper does not contribute to the storm water pollution problem. Here are some things to consider when using a yard care professional:

- Ask them to recycle grass (leave clippings on the lawn)
- Make sure they sweep up stray clippings and dispose of them properly instead of leaving them in the street
- Know which pesticides are being used, that they are only used when necessary and that they are not applied on a set schedule



What is storm water?

Storm water is rainwater, snow melt or even water from a garden hose that isn't absorbed into the soil.

It's not treated at a treatment plant.

Storm water runs off rooftops, down street curbs and across parking lots to storm drains. Storm water pipes empty directly into creeks and lakes. Whatever goes down storm drains ends up in our drinking water supply.



Storm water flows out of pipes and directly into streams

Storm Water problems

As a community grows, so do storm water problems. When there's too much storm water, it can cause flooding. A typical city block generates five times more runoff than a woodland area of the same size.

When the storm water picks up pollution as it flows, it contaminates our streams, rivers and lakes.

What Storm Water Services does:

- Reduces flood risks
- Improves water quality in our streams, rivers, lakes, and ponds

Effective storm water management involves:

- Engineering
- Science
- Land use planning
- Regulations
- Educating the public



Where does water pollution come from?

Most water pollution is created from people doing everyday activities. As we drive our cars, take care of our homes and lawns, or work at our jobs, we may contribute to water pollution. Often without realizing it.

As storm water flows, it picks up bits of dirt, auto fluids, chemicals and grass clippings. Sometimes, people intentionally (and illegally) dump paint, used oil, leaves or other pollutants in storm drains.

This "non-point source" water pollution comes from yards, driveways, parking lots, rooftops, streets, even golf courses.

"Point source" pollution comes from a single source. Some examples include a factory or a sanitary sewage treatment facility discharging into a stream. Point source pollution could also come from a spill such as a tanker truck accident where fuel or other contaminants flow into the storm drain system.

Water that flows into the storm drains system is not treated or cleaned.

Storm water flows across lawns, streets and parking lots picking up contaminants. Because that runoff is never cleaned, the storm water can pollute our streams.



Grass clippings can clog drainage pipes and can cause algae blooms and fish kills in our creeks.



What you can do

- Don't use storm drains as a trash can.
- Put trash and cigarette butts in the trash.
- Don't apply fertilizers or pesticides before a heavy rain.
- Pour kitty litter or sand into unused pan and discard in trash.
- Take used motor oil to local approved used oil recycling centers.

Only rain should go down the storm drain.



Yard Waste

How can yard waste cause problems?

In the autumn, the leaves fall from the trees. In the summer, there are grass clippings from mowing the lawn. In spring, weeding the garden produces a lot of yard waste. In the winter, heavy snow and ice storms can bring down tree limbs.



Do you know what to do with this yard waste?

There are ways to properly dispose of yard waste but dumping it down storm drains or in creeks is never an option. The City of Greenbrier offers curbside leaf and limb pick up in April and October of each year.

Disposal Tip

*Use a compost bin to turn yard waste into a useful gardening product.